

ITEMS OF INTEREST.

VOL. XIV.

PHILADELPHIA, MAY, 1892.

No. 5.

Thoughts from the Profession.

ELECTRICITY AS A THERAPEUTIC AGENT.

Paper by JOHN S. MARSHALL, and Discussion in the American Association.

Electro-therapeutics in medicine and surgery has been developed to a considerable degree, and may be said to form a very large and important element in the treatment of some forms of disease, while in dental surgery it has received little attention. It is almost a negative quantity in dental literature.

Its application, however, in dental surgery does not offer so broad a field for investigation, yet a study of its value as a remedial agent will be no less interesting than in other special departments of medicine, and when better understood it will, I believe, become an important adjunct to the means already at our command for the treatment of many oral diseases.

I have chosen as the special topic of this paper two out of several important pathological conditions of the teeth, to which the various forms of treatment by electricity may be beneficially applied. The choice has been governed by a desire to present forms of disease on which these beneficial results could be most easily and certainly demonstrated.

An exhaustive treatment of the subject will be out of the question. I shall, therefore, refrain from generalities and place my subject before you in outline only, leaving your good sense and experience with disease to fill in the details.

Hyperemia and congestion of the dental pulp from caries, thermal shock, chemical and mechanical irritants, and traumatic injuries, resulting in odontalgia, are among the most common of the diseased conditions found in the oral cavity, and many times the most difficult to control by the methods of treatment usually

adopted, without devitalization of the pulp. Hyperemia and congestion of the peridental membrane from constitutional causes, such as rheumatism, gout and pregnancy, and some local causes, like excessive malleting, excessive wedging, change of position of the teeth in regulating, and other surgical or traumatic injuries, resulting in severe pain, is many times quite as difficult to control.

These forms of disease will best serve our purpose in this attempt to demonstrate the therapeutic value of electric and galvanic currents in the treatment of local disorders of the oral cavity.

The object, of course, in the treatment of these forms of disease is, in the first class, to relieve the congested condition of the blood-vessels and to preserve the vitality of the pulp; in the other, to arrest the inflammatory symptoms short of the suppurative process or of the formation of adventitious tissue or new growths.

How these much-to-be-desired conditions can be obtained is a question that has often troubled the mind of the thoughtful dentist; and while I do not claim to have made any new discovery, I am confident that the galvanic current, if judiciously used, will prove to be a valuable aid in the treatment of some forms of inflammation of the pulp and peridental membrane, and many other conditions which further experience and experiment will demonstrate.

It is a generally-known fact to medical electricians that local hyperemia and anemia can be produced at will by the influence of the negative and positive currents of electricity, and that resorption of inflammatory products and new growths can be promoted through their stimulating effect on the absorbent organs.

It was the knowledge of these facts which led me to investigate the value of the application of these principles to the treatment of congested conditions of the dental pulp and peridental membrane.

The first case on which I attempted to demonstrate these principles (which will serve as a good illustration) was a tooth in my own mouth, the history of which is as follows: The right first upper bicuspid had been filled with gold, at the age of twenty years, but from poor manipulation had been refilled several times during the next fourteen years. Ten years ago the last of these fillings came out, leaving a large disto-proximal cavity, and the pulp nearly exposed. The tooth was exceedingly sensitive to the slightest thermal changes, to acids or sweets; it was, therefore, plugged with Hill's stopping. Six years ago this filling was removed with the hope of introducing gold, but the tooth was in such a sensitive condition as to make it unwise to introduce gold; oxyphosphate was therefore substituted. During the following night there were developed marked evidences of a congested condition of the pulp.

The next morning the phosphate filling was removed and the cavity dressed with oil of cloves, and a solution of gutta-percha in chloroform was flowed over the bottom of the cavity, which was refilled with oxyphosphate. The symptoms, however, did not abate, but gradually increased in severity. I therefore determined to try the depleting effect of the positive galvanic current, and called on my friend, Dr. Justin Hayes, of Chicago, with the request that this line of treatment might be thoroughly tried. The positive pole of the continuous galvanic current was applied to the tooth, and the negative pole to the carotid triangle of the neck on the same side. The strength of the current was graduated to my ability to bear it without discomfort, and the poles were allowed to remain in position for about half an hour. At the end of ten minutes there was a marked improvement in the symptoms, and at the end of the half hour all discomfort in the tooth had disappeared. During the following night the tooth again became uneasy, but a second treatment of about twenty minutes the next morning completely relieved it, and from that time on it has caused me no annoyance. Three years ago, the tooth was filled with gold, as a clinic, by Dr. Roscoe F. Ludwig, at the International Medical Congress held at Washington, D. C. The pulp is still vital, but is no more susceptible to irritating influences than that of any other tooth in my mouth.

The marked success which followed the treatment of this tooth has led me to adopt the same treatment in several similar cases, all but one of which have responded to my entire satisfaction. This case was one in which there was not much hope of the treatment proving successful, yet it was tried as a forlorn hope. The history is briefly as follows:

"Miss J. E., aged twenty, of frail, delicate organization, fair health, had been under treatment one year previous for protrusion of the upper front teeth. The operation had been performed slowly and with great care to avoid serious irritation of the dental tissues and alveolar processes, and the final retaining-plates had been worn for about six months. About this time, a slight discoloration near the gum of the right superior central was discovered. She came in great haste to know why this should occur. There had been no pain in the tooth, and there was no soreness to percussion; it was slightly sensitive to heat and cold, but this symptom was not so marked as in the adjoining teeth. My diagnosis was either passive congestion of the pulp, induced by irritation in moving the teeth, or the formation of an embolus in the pulp-vessels. As there seemed to be no hope of saving the vitality of the pulp by the ordinary methods of treatment, the

positive galvanic current was applied. In the treatment of this case I called in counsel Dr. Plymon Hayes, of Chicago. On the application of the current to the neighboring teeth, three-fourths of a milliampere was all that could be comfortably borne, while the diseased tooth would bear just double this amount. Daily treatments of twenty minutes each were maintained for a week; during the first three days there was a slight increase in the sensation of the tooth under the current, and the strength was reduced to one milliampere; after this, however, sensation seemed to grow gradually less, the current being increased to three milliamperes without unpleasant response. The treatment was therefore abandoned, the tooth tapped, and the pulp removed, and the case treated by the usual methods."

In the treatment of pericementitis not caused by septic poisoning from a devitalized pulp, it is many times of very great benefit. In these cases, the positive pole should be applied to the gum over the roots of the affected tooth; marked relief is often experienced in a few minutes, and often entire relief after three or four applications.

In a former paper* I have called attention to the prevalence of hyperemic odontalgia frequently accompanying pregnancy, as a result of impeded circulation in the lower extremities, and thereby causing general hyperemia of the upper half of the body. The general treatment suggested in that class of cases was rest in the recumbent position, and anodynes. I would now suggest as an additional treatment the local application of the positive galvanic current to the affected teeth.

With regard to the strength of the current, experience proves that from three-fourths to one and a half milliamperes is sufficient in the class of cases so far mentioned, while the frequency of the sittings will depend on the severity of the local symptoms and the nervous susceptibility of the individual.

As a rule, one treatment in twenty-four hours is all that will be required; in aggravated cases, two, and occasionally three, may be advisable, the duration of the sittings being from fifteen to thirty minutes.

As a means of diagnosis in obscure cases of the vitality or non-vitality of the dental pulp, I know of nothing so sure to demonstrate to a positive certainty these conditions as the electrical currents, both the galvanic and the faradic. In the more obscure cases, however, the faradic is superior to the galvanic, for if there is the slightest vitality remaining in the pulp it will demonstrate it instantly by causing a response in the tooth. It is superior in this

*Journal American Medical Association, 1889.

respect to the transmission of light by the electric mouth-lamp, for many times when the condition is on the border-line between the life and death of the pulp, the electric light fails to satisfactorily demonstrate the condition.

I also believe that the electric currents will serve to demonstrate the presence of low grades of inflammation of the tooth-pulp, so often the cause of various forms of neuralgic conditions of the face and head. The faradic current especially, if applied in such cases, will demonstrate a hypersensitive condition of the tooth-pulp. In order to locate the tooth causing the neuralgia, it will be necessary to apply the current to each individual tooth. The diseased one will give more active response to the current than will the healthy teeth; in other words, the diseased tooth will not bear so strong a current as will the healthy ones; hence the importance of using the milliamperemeter for measuring the exact strength of the current.

The value of the current in the treatment of neuralgia, paralysis, atrophy of muscles, chronic enduraction, tumors, and various other conditions, there is not time to detail. We shall, therefore, leave the matter here, feeling that we have offered a sufficient number of suggestions to stimulate investigation as to the value of electro-therapeutic treatment in the class of cases which have formed the especial topic of this paper.

The battery, milliamperemeter, and the electrode, which I use, were made for me by the McIntosh Battery and Optical Company, of Chicago.

DISCUSSION.

Dr. G. J. Friedrichs: I wonder if there is not some mind-cure in that. You may laugh, but there is some truth in my remark that the mind has a great effect on the result of treatment. It will cure sometimes. I had that illustrated in my own case. I have suffered frequently from lumbago. The first time electricity cured it in about the space of two weeks, when, by the general course of the disease, I would have recovered without any treatment in about six weeks. The second time I was taken, the remedy was applied. It had no effect at all, though I kept it up for at least a month. I believe, really, it is a good thing, and if I adopted anything that has been presented here, I should apply it to relieve patients whom we cannot relieve otherwise. I should make the attempt, at any rate.

Dr. Abbott: The little instrument that is being passed around, that Dr. Marshall has used in his electrical current, reminds me that some years ago I made an instrument of a similar kind, only the back end was a bow, instead of being held by a lit-

the rubber arrangement,—a bow that would spring back and forth, made of brass, silver, or gold; on the ends of the bow were cups facing each other, the same as these. Each cup would hold about a quarter of an ounce, I should judge; they were about three-quarters of an inch in diameter and nearly half an inch in depth. The cups I packed with sponge, and saturated each with a mixture of tincture of aconite-root, chloroform, and alcohol, of each one ounce, and to which I added Magendie's solution of morphine, twelve drops. That I used as a local anesthetic for extracting teeth. Saturating the sponges and holding them against the sides of the gum, over the tooth, for about five minutes, the desired effect is produced.

Dr. G. J. Friedrichs: What is the object of adding alcohol? Aconite is an alcoholic tincture. I find that aconite answers all the purpose.

Dr. Abbott: I give it to you as I have used it for a good many years. You can do as you like with it. Some gentlemen seem to have understood that I use electricity with this preparation, but I do not. I would suggest, however, that electricity would intensify the action of any material of this kind. By making each of those sponges an electrode, you can force the remedy deeply into the tissue, and produce the effect desired without the slightest trouble in a very few minutes. That is the common practice with surgeons to-day,—using electrodes for forcing local anesthetics in the tissues. The results are much more satisfactory than they are if absorption is relied on.

Dr. Horton: My son has invented an apparatus by which he overcomes all sensitiveness in the dentine from excavating preparatory to filling teeth. He is not in the situation to make any illustrations here, but I hope and expect at the next meeting of this society he will be present to show you what he can do. I believe this invention will entirely do away with all medicaments that have been invented or thought of. He will excavate a cavity, whether it is wet or dry, without the slightest pain, in persons of any age.

Dr. A. G. Friedrichs: I was pleased with Dr. Marshall's suggestion. We all know that electricity is still in an experimental state, that, as far as our knowledge goes in regard to the use of it—I speak medically—there is really no particularly definite data on which to base its application. I think the suggestion of Dr. Marshall is a very good one. It is far from being demonstrated, because in all these matters it requires a great deal of original investigation to get to a point where it is beyond the experimental state. I do not believe in tabooing anything that has the least

show of being productive of good. If these conditions arise, I should certainly try to get some data, so as to either prove or disprove the benefits that might be derived from the use of electricity under the circumstances that Dr. Marshall has spoken of.

Dr. Morgan : I perhaps know less about electricity than any man in this audience. For the last four or five years those of you who have known me know that I have had great difficulty in my locomotion. I am constitutionally rheumatic. I am afraid that I have hereditary gout. A few months ago a gentleman came to me with a little apparatus made of wire with a couple of poles to it, and one end of which he proposed to attach to me ; he called it an electropoise. I was walking with a crutch and stick, stepping about fifteen inches at a time, and I had to have both the crutch and cane in order to get across the floor. I was enjoined not to take any medicine. He attached the apparatus to the wall in a little box beside my bed, and connected it to my ankle next to the skin, and a little metallic cylinder, the other pole, was carried down and put in the earth below. In about a week or ten days I began to sleep a little better. The pains, with which I had suffered constantly, began to subside, and in about three months, wearing this appliance every night, that foot began to come up a little. I have worn it almost constantly from that time to the present, and this is the way I travel now. [Stepping across the hall, without crutch or cane.] (Applause.) I am free from pain ; I sleep like a baby ; my digestion is first-rate, and I have no interrupted pulsation of the heart, from which I had suffered since 1867, when my friends all thought I was going to die soon. I am in my seventy-third year, and I believe I am going to renew my youth. When he put this thing onto me he said : " I am going to make you throw away your crutches ; you shall walk without them," and now I can hobble across the floor without them. That is all I know about it ; so I regard this thing you call electricity as very valuable, and though I do not walk very well—I am not restored in that respect—I do not know of any valuation that could be put on it in dollars. I do not know whether I would begin in the thousands or tens of thousands, or where. I give that as an illustration of the value of that material you call electricity. I do not know what force operates this appliance. Our experts at Nashville took it down to our electrical plant there, and they say that no electricity whatever could be discovered, and you cannot feel any current when it is put on ; but it does some very wonderful things, under my eye, not only for myself, but for two or three others who are very near to me. In one case, the healing up of some of the ugliest

old ulcers on the ankle that I ever knew, that were of twenty-five years' standing at least, in seven weeks.

Dr. Abbott: I would like to emphasize what Dr. Morgan has said, so far as a patient's testimony will go. I have had similar results with the same instrument that Dr. Morgan speaks of, and, if anything, even more remarkable. I would not part with that little instrument, which I can carry in my pocket, for any amount of money.

Dr. Shepard: There are extant among intelligent, as well as ignorant people, such a multitude of testimonies of cures which cannot be accounted for by any recognized laws of medical science, or by the use of any known medicament, that we are forced to the conclusion that there is at the bottom of such cures some principle like mind-influence, which is not yet fully understood. We cannot dismiss these well-authenticated cases with the claim that they are accidents or coincidences. We may accept the extreme theory of direct Divine interference, or the less supernatural one, that faith or implicit belief in itself is sufficiently powerful to cause chemical, physiological, or functional changes in the human organism. We know that some of the most intelligent and well-educated people in our communities are firm believers in and practitioners of Christian science and kindred theories, and we must admit that they are not lunatics. The origin of the bread-pill treatment is lost in the mists of antiquity. Every one has found a pretended medicament as efficacious as a true one, when enforced by the positive assurance given to the patient that it is sure to do the desired work, provided the assurer has the character calculated to carry conviction. There is no reason why we should not take into account these facts and avail ourselves of them in our practice, either in place of a desired medicament, or to augment the efficiency of those we use, feeling assured that we are doing good thereby. And may we not hope with confidence that as a result of patient scientific investigation many things which are now dark will be made clear, and that we are on the threshold of some great truths, which now mislead us from our not understanding them, but which will ere long be so much better understood as to explain the multitude of occult things in medical practice?

Dr. Taft: Dr. Morgan is not that kind of a man. He is not a man who will believe anything and everything that anybody tells him. There must be an appeal to his judgment and reason before he will believe, and I do not think that his assent had anything to do with the influence this apparatus had on him.

Dr. Morgan: A greater infidel, on the subject of all that oc-

cult influence that my friend speaks of, than I am, does not exist this side of Jordan. When the gentleman who left the instrument at my house went and announced to my friends down-town that he was going to make me throw my crutches away, I thought he was a visionary. I have boxed the compass on this subject of medical treatment from Boston to New Orleans, and I have tried electrical baths and electricity in almost every form, and consulted the best medical men without ever receiving any permanent benefit, and I have all my life eschewed everything like quackery and nostrums in every shape. I had as little confidence in them as any man, but when I know the results, why, there is no use talking. I do not know anything about it. I simply state the facts to show that there is somewhere in that region an agent that we do not yet know how to handle, which will be very valuable.

Dr. Marshall: This discussion has taken a very wide range, it seems to me, and it would take a long time if I should attempt to answer all the points that have been brought up. A good many of them, by the way, I could not answer to your or my own satisfaction; but Dr. Friedrichs and Dr. Shepard have thrown out the suggestion that perhaps this idea of electricity being beneficial in the treatment of disease, is owing to the influence of the mind, or, in other words, that it is part of the mind-cure. These gentlemen are not serious certainly when they make that statement, because we know positively that forms of tumors in the human body can be reduced by the action of the positive galvanic current. This has been proven hundreds of times, so that point is settled. Its action is to stimulate the absorbents, and in that way the tumor is carried away. Another fact that has been thoroughly well established that I brought out in my paper, and the one which stimulated me to the test of the question, is the production of hyperemia of the surface of the body by the application of the positive galvanic current, and the reverse of that by the negative current. You can drive the blood out of a part by the current, or you can bring it in. Anybody can test that if he has a battery. Another point: When I first began this treatment I used my index finger as an electrode, having my assistant hold the lip away. I could not leave it on the tooth more than about five minutes before the current decomposed the water and the secretions under my finger-nail, when it became so painful that I could not bear it. What was the trouble? Acids formed there, caused by the decomposition of the fluid by the electric current. These things we do not understand, but through this influence we get some of the most valuable therapeutic effects of the remedy.

I might have illustrated my paper by citing several cases, but I did not wish to take up your time. I thought if I gave you one successful case it would illustrate the point I wanted to bring out. I will give you one other case. One of the most talented women in Chicago, a physician, who lives on the North Side, had this difficulty: In the excavation of a cavity in a bicuspid tooth by her dentist, one of the horns of the pulp was slightly exposed, and he capped and filled it with oxyphosphate; a few days afterward it began to trouble her. In the first place there was simply that low, grumbling, disagreeable sensation that is often observed as a forerunner of pulpitis. I suggested the use of the positive galvanic current. She said it would not do her any good, that she had no confidence in it. I asked her to let me try it, which she did, and in less than half an hour the tooth was quiet. It went along for several weeks, and she came back and said the tooth was annoying her again, that that morning she took some hot coffee, and since then it had annoyed her. I applied the current three times, one sitting of twenty minutes a day. The tooth is comfortable, and the pulp is still alive. Under ordinary circumstances, if I had let it alone, it would have been dead in three or four days. The value of this treatment is not in cases of pulpitis; it is only in those cases where you find the first stages of hyperemia, where it will, if let alone, in all probability go on to congestion and death of the pulp. Take it in the first state, and you will relieve the hyperemia and save the pulp.

Dr. Abbott spoke of the introduction of medicaments in the system by the galvanic current. There has been a good deal said about that of late years. I have not tried it yet, but before I left home, in a conversation with Dr. McIntosh, it was brought up, and I said I wanted to try some remedies, for instance, in pericementitis, taking the tinctures of aconite and iodine, which we use to abort the disease, applying them with a sponge, as Dr. Abbott suggested, and seeing if we could carry that medicament in the tissue so as to bring about a more rapid action. I have some thought that it can be done, and I propose to try it to see what can be accomplished with it.

—*Dental Review.*

The cause of discoloration of gold in the mouth is sulphur. It is taken into the system by medicine, candy, cakes, etc. Burning brimstone matches will leave its effect on gold fillings. Rub a brimstone match across a gold filling and it will soon turn black.

A. D. B., *Norfolk, Va.*

VARIETY AND MODIFICATIONS IN DENTAL CARIES.*

We may sum up the cause of dental caries as acids and fungi. Though the investigations of Miller, of Berlin, have confirmed this hypothesis, yet in the minds of many practitioners this conclusion has been accepted for many years. The chief agent, without which there would be no dental caries, being acids and fungi, the character of the process of the caries must depend on the character of the acid and the fungi producing it. The process of the dental caries consists of the decomposition, or the solution of the inorganic matter of the tooth by the acid, and the decomposition by the fungi of the organic structure of the tooth. Assuming that the fungi are alike in all cases, we know the acids to be different, and on the character of this acid will depend the character of the caries. The character of the carious process will differ as differs the degree of concentration of the acid, the quantity and the degree of persistence with which it remains at the seat of the disease.

The character of dental caries will be influenced much by the order in which decomposition of the tooth structures take place. If the fungi decompose their part of the structure first we will have a caries of a rather hard consistency; a leathery tendency to a softer consistency of the caries will result if the acid dissolves or decomposes the calcareous matter previous to the action of the fungi. There can be no doubt that the consistency of dental caries is dependent on the time of action of the acid and the fungi.

Quality of tooth structure modifies the character of dental caries. Whatever the character of the agent may be, whether concentrated or diluted, whether persistent or intermittent, or in whatever stage of caries the case may be, the well organized or perfect structured tooth will show a slower process of disease than the tooth of weak structure. To further elucidate this principle, and to present it to the mind in the extreme: when the chemist wishes to dissolve a substance in an acid, or any other menstrum, he pulverizes the substance to produce rapid solution. This comminution of the substance brings about a condition whereby a larger extent of surface is presented for contact with the menstrum, and it is a known fact that rapidity of solution is in proportion to the extent of surface. This principle may be applied to the process of dental caries. If the enamel prisms, or dental tubuli, are loose in structure, there is a larger extent of surface, and rapidity of caries is increased, and though imperfection of structure may be visible

* Read before the Ohio State Dental Society, held at Columbus, December, 1891.

to the naked eye, this ever watchful agent of dental caries has its headlights and reflectors into all the alleys and byways of imperfect development, and is always ready with its regiments of sharp-toothed soldiers to take up its camping ground on any unoccupied tracts.

Another circumstance which modifies the character of dental caries rests in the fact of the difference of chemical structure between the enamel and dentine. The lime salts of enamel are in excess of those found in dentine, so that an acid may be found strong enough, and in sufficient quantity to dissolve dentine, while the enamel will be little or none at all affected. Dental caries arising from such a condition would find explanation in cavities of considerable depth and small external openings. Such cavities would be the result of weak acids and long-continued action. Caries with wide external openings and superficial in character would result from sudden strong acid reaction and short duration. In both these cases the character of the dental caries is not caused by the character of the agent producing it, but mostly by the difference in chemical structure in the enamel and dentine. A condition which characterizes the process of dental caries is an excess or a lack of sensitiveness. Sensitiveness accompanies that process of dental caries where the acid of the disease operates more rapidly than the fungi. Such is the soft varieties of caries. It does not then follow that all soft caries are sensitive, for to produce this condition, the process of the disease must be such that the dental tubuli are left almost, or entirely, intact. A lack of sensibility will attend that process of dental caries where the fungi are the most rapid in their action, destroying the organic tissue, or dental tubuli, and leaving the lime salts, producing the hard variety of caries. From these principles we would deduce the conclusion that the very soft and the very hard varieties of dental caries would be free of sensibility, and that we could look for sensitiveness in the semi-hard varieties of dental caries.

Color is another characteristic feature of dental caries. It varies from white to black. The responsibility for the color rests much on the nature of the agent, but not entirely so, as deposits on the teeth and habits of the individual in general, have some influence on the subject. For example, the tobacco chewer may be afflicted with the white variety of caries, and yet the color may be black from the infiltration of nicotine. The black variety of caries may lose its characteristic color from the introduction into the oral cavity of a variety of decolorizers.

There passes before the eyes of the practitioner a daily pano-

rama of varying changes in the character of dental caries ; there are slow caries and rapid caries ; caries deep in character, with small external opening ; caries with large external opening and superficial in character ; caries hard in consistency, and caries soft and without form ; caries that are painful and that which lack insensibility ; caries with color and caries without color. These qualities combined gives character to dental caries, and the absence or presence of one or more of them is what produces variety and modifications in the characters of the process of dental caries.

Dr. G. S. Junkerman, Cincinnati.

THE TASTE OF GOLD.

The ninth question of your Question Box is : " Would five gold caps, of twenty-one-karat, produce brassy taste in the mouth of any patient ? " I have a patient who says it does ; also giddiness. Her physician says, as does the patient, it is the alloy in the gold. I say it is not possible. What are the facts as brought out by metallurgists ?

Allow me to relate a little personal experience. In the Spring of 1881, Dr. Marshall H. Webb placed in my four upper incisors very extensive gold fillings ; the two centrals, except the labial surface, were all gold, and the fillings in the laterals were quite large. The name of the operator is a sufficient guarantee that the work was well and skilfully done, and the gold foil used the best to be had. Within a short time after they were inserted, until the present time, I frequently have about these teeth a notable metallic taste, closely resembling the sensation produced when the terminals of a galvanic battery are brought near each other on the surface of the tongue. It is not always present ; for long periods of time I do not notice it, and then again it becomes so decided as to be almost painful. I do not find that its presence or absence is due to changing conditions of health, or that articles of diet, acid or alkaline, have any effect in causing it.

After about three years, one central broke off, and was replaced with a porcelain crown mounted on an eighteen-karat gold cap ; and recently its fellow has been in like manner replaced. I have thought these changes have, in a slight degree, made the annoyance less ; but it is still there.

At times I have thought that it might indicate a galvanic action, such, as was claimed by the new departure advocates, might exist under some conditions between dentos and gold, resulting

in the disintegration of the dentos. Frequent examination of the teeth by a competent dentist, confirmed by a closer examination of the centrals after they had broken off, gave no evidence of any such action; the margins of all the fillings are as perfect now as they were when finished by Dr. Webb, and are beautiful examples of his exquisite workmanship. I have taken no mercury, in any form, at any time. I have not in my mouth any metallic fillings other than gold, and do not wear a plate. I have not found any remedial agents to have the slightest effect in causing the sensation. It comes and goes; is present or absent; is a slight, scarcely noticeable sensation, or a very pronounced and annoying one. Why, I cannot tell. During these many years I have been quite unable to even suggest a cause for the effect. I am not a monomaniac, nor am I gifted with a large degree of imagination. It is certainly not due to the alloy in the gold; the gold in the fillings, I am satisfied, is as pure as can be had; the substitution of a lower karat gold in the crowns has not made the trouble any worse; if anything, it is less noticeable.

In a notable number of cases I have had patients, who have in their mouths large gold fillings, make the same complaint, usually calling it a coppery or brassy taste. None have, however, complained of its having any effect on their health. I have had, so far, no like complaint to follow the insertion of gold caps, or gold bridges, or yet from the wearing of gold plates.

William H. Trueman, Philadelphia.

LABORATORY HINTS.

Making Instrument Points.—One of the first jobs my preceptor put me at when I went into his office, was polishing a lot of instruments which he had pointed and repaired. I tried to see how nice a polish I could put on them; every opportunity from that time on was improved by trying my hand at working over old instruments till I got to be quite handy at it.

To-day this seems to be almost a lost art among the younger members of the profession. Owing to the immense variety we have to select from, and the low prices of repairing, it is not as necessary to understand this work as it was twenty or thirty years ago; but it is very often convenient to know how. Many leisure hours might be put in at this work, thereby supplying ourselves with some useful instrument; besides cultivating our mechanical skill.

Every dentist, at times, will find places where he will have use for a peculiarly shaped instrument, one that cannot be found in the catalogues. It is no longer necessary to make the whole instrument, as points can be made to fit the handles you are using. The tools required for the work are generally found in the laboratory of all bridge and crown workers, with the exception of the screw-plate and steel rods. The tools required are a small steel hammer, large alcohol lamp, bench anvil, small hand vise, bench vise, flat and round nose pliers, medium size Arkansas stone for lathe, two felt wheels for lathe, steel rod, and screw plate. All the above can be purchased at any dental depot, except, perhaps, the screw plate and steel rods; these can be procured of John Wilkinson Manufacturing Company, Chicago.

In ordering the screw-plates, it is a good plan to send in one of your points, to get a plate with the same thread. The rods should be Stub's best steel drill rods, of the same gage as your points.

Fasten one end of the rod in the hand vise firmly, that it may be easily handled while forging the point. In heating and forging the steel, it should be heated as hot as it will stand, and stop hammering before all color leaves, till finishing up the point, when it should be hammered till almost black; working steel in this manner leaves it tough, easy to anneal, and susceptible of a good temper. After the point is shaped, cut off from the rod with a saw, put it in the bench vise and cut the thread on shank. The point is now tempered, ground, and shaped on the Arkansas stone; the stone being run slow, and kept well wet; do not try to hurry the grinding. The point is now ready for the polish: for this purpose use crocus of two grades, medium and fine; mix the crocus with olive oil, and apply to the felt wheel, hold the point to the wheel firmly, and run the lathe at a high speed, beginning with the medium grade and finishing with the fine.

I will not give directions for tempering, as nearly every dentist has a process of his own; and those who may not have had experience in tempering will find full information and formulas for tempering baths in my new book, "Useful Hints for the Dentists," published by the Wilmington Dental Manufacturing Company.

Forging Steel.—Many times a tool after being shaped, and made perfectly straight, will spring or warp out of shape in tempering. This is generally caused by improper hammering. During the process of drawing out and shaping a piece of steel, the hammer should be used equally on all sides, to retain the same density.

To Test Steel for Temper.—We often waste much valuable time shaping some tool or instrument only to find, when finished,

that the steel used will not take a hard temper. It is much better to test the steel for temper before working, which may easily be done. Take a piece of the steel and draw it to a square tapering point, at a low heat, and plunge it into cold water; then with a pair of pliers break off the extreme point, and if the remaining sharp corners will make a scratch on glass, the steel is susceptible of a high temper

Dr. William H. Steele, Forest City, Iowa.

“HOW TO HAVE GOOD TEETH.”

There is scarcely a subject of a personal character so sadly neglected, and so little understood, by the people in general, as the care of the teeth. In view of this fact, the Dental Society of Philadelphia (about one hundred members of eminent ability), offered a prize for the best essay on the subject, to be published for the benefit of the public. The prize was awarded for the following:

1. Cleanse your teeth once, or oftener, every day. Always cleanse them before retiring at night. Always pick the teeth and rinse the mouth after eating.

2. Cleansing the teeth consists in thoroughly removing all foreign substance from around the teeth and gums.

3. To cleanse, use well-made brushes, soft quill, or wood tooth picks, an antiaacid styptic tooth wash and precipitated chalk. If these means fail, apply to a reliable dentist.

4. Always roll the brush up and down lengthwise of the teeth, by which means you may avoid injuring the gums and necks of the teeth, and more thoroughly cleanse between them.

5. Never use a dentifrice containing acid, alkali, charcoal, soap, salt, or any gritty or powerful detersive substance.

6. Powders and pastes generally are objectionable. They injure the gums and soft parts of the teeth, and greatly assist in forming tartar. A wash, properly medicated and carefully prepared, is pleasanter and more beneficial. It dissolves the injurious secretions and deposits, and the whole is readily removed with the brush and water.

7. Avoid eating hot food. Thoroughly masticate and insalivate the food before swallowing it. Frequent indulgence in sweetmeats, etc., between meals disturbs the process of digestion, and a viscid secretion is deposited in the mouth (from the stomach), which is injurious to the teeth.

8. Parents, carefully attend to your children's second dentition. Gently prevail on them, at an early age, to visit, at frequent inter-

vals, a careful and skilful operator. Remember that four of the permanent double teeth come in at about the age of six years; they are very liable to decay early, are very large, and should never be allowed to require extracting. Children do not "shed" their teeth as they did in former ages. Instead of being trained to masticate nutritious food, they are allowed to "gulp down" delicacies—hot cakes, hot beverages, etc.—with much fluid, thus, by depriving the teeth of their natural function, and overtasking the stomach, a morbid condition of the general system is produced—the "first teeth" are permanently decayed, and the permanent set are not matured at the proper period of dentition. The consequences are terrible.

9. Never allow any one to extract a tooth or to dissuade you from having them filled, unless absolutely necessary. Many so-called dentists, actuated by incompetence or selfish motives, advise extracting, and sacrifice many teeth, which competent operators can render serviceable for many years.

10. Carelessness and procrastination are responsible for most teeth that are lost.

FOR SOLDERING IN THE COLD.

READER, St. LOUIS.—A man came into my establishment recently and wished to purchase what he called "cold solder," but could give no other description than that it was a mixture of chemicals to be applied cold to metals, and that it soldered them together. I knew of no such chemicals, and told the man so. To-day another man came in and asked for the same mixture, calling it by some name which I could not catch, but something like Klinski's or Calinski's Cold Solder Fluid. Do you know of such a fluid, and if so, how is it made?

We do not know of such a preparation, and think you are probably being "worked" for the benefit of some fellow who will come along in a day or two and want to sell you a few dozen of "Klinski's Cold Soldering Fluid." There is a process of cold soldering which is quite useful, and in some cases very valuable indeed, but it is not done with a fluid.

It consists of two alloys, the one of metallic sodium and mercury, and the other of metallic copper and mercury, prepared and used as follows: The flux consists of 1 part of sodium to 50 parts of mercury. This must be carefully protected from the atmosphere in a glass-stoppered bottle. This has the property of amalgamating any metal with which it comes in contact, forming an adhesive

amalgam even on cast iron. The solder proper is made as follows: Dissolve 10 ounces of sulphate of copper in 2 pints of water, and then precipitate the copper by the introduction of strips of zinc. Wash the precipitate in hot water two or three times, drain off, and for every ounce of precipitated copper add 2 ounces of mercury. Add also a little sulphuric acid (say 15 to 20 drops), to aid in the amalgamation of the metals. The finely divided copper and mercury form a paste which sets and becomes intensely hard in the course of a few hours. It should be made up, while soft, into little pellets and put away. When required for use, first amalgamate the surfaces to be joined by rubbing them lightly with the flux. This is the equivalent of tinning in the ordinary soldering methods. Then take one (or more, as the case may be) of the pellets, and warm till the mercury begins to exude at the surface. Wipe off the exuded drops with a clean rag, and drop the pellets into a small mortar and rub till smooth, or about the consistency of prepared white lead. Smear this over one of the surfaces to be joined, and apply the other surface to the latter as quickly as possible. The joint sets so firmly in the course of two-and-a-half to three hours, that only a hammer and cold-chisel (or a degree of heat sufficient to melt ordinary solder) can separate the surfaces.

For an even stronger and much quicker setting solder, where expense is no item, take the following to replace the copper and mercury (using the same flux):

Silver.....	8 parts.
Tin.....	10 parts.
Bismuth.....	1 part.
Platinum.....	1 part.

Melt together, and cast an ingot. Rasp to filings, or otherwise reduce to small particles. When required for use, mix about 3 parts of filings and 1 of mercury in a small mortar till it becomes a smooth paste. This sets in about fifteen minutes, and can not be made workable again by heat; it must be mixed just as required. The omission of the platinum reduces the strength of the solder, and lengthens the time required to harden to about one hour. The omission of bismuth makes a more granular mass, which is better for filling up crevices. With bismuth, it is as smooth and plastic as potter's clay. Joints made by this solder are almost inseparable. It is very valuable in repairing surgical and philosophical instruments, the brazing of delicate springs, and in all cases where the application of heat would be hurtful or destructive.

—National Druggist.

THOUGHTS ABOUT BLOOD.*

The most interesting feature of the blood, considered from the standpoint of the dentist, is the part it bears in superficial cuts and wounds in reparative work.

Dentists are not very great blood-spillers, on account of the superficial nature of the wounds they make and the smallness of the veins and arteries they sunder in their operations. Therefore the dentist gives but little attention to kind nature's work in saving him from the mortification of a disastrous operation, by a provision in the constitution of the blood itself to prevent dangerous hemorrhages from slight wounds, and making the arrest of hemorrhage possible in extensive wounds.

The coagulation of blood and the formation of blood clot seems not to be very well understood by pathologists. The common statement is, that coagulation depends on the amount of fibrin in the blood. This simple statement does not present a fact of sufficient importance to account for coagulation, when it is considered that there is less than two thousandths of one per cent of fibrin in the blood while in the blood-vessels. Others, aiming at greater accuracy, state that on exposure to the atmosphere the fibrin unites with other elements of the blood, paraglobulin, and a fibrin ferment, and that by this means fibrin is rapidly formed at the mouths of the bleeding vessels, thus forming a threaded mass to mechanically resist the hemorrhage.

To my mind, this theory is very faulty. The method of demonstrating it is, to take a bundle of twigs and move it back and forth rapidly through a current issuing from a blood-vessel, and the fibrin will be seen to form around the twigs. This demonstration simply proves the presence of fibrin in the exposed blood in greater quantity than before the blood flows out of the vessels. But the conditions of its formation in an ordinary case of blood-letting are not present. The whipping of the stream of blood with the twigs, to expose it to the atmosphere and encourage the formation of fibrin, cannot ordinarily be attempted or made possible. Yet the cases are rare when blood will not clot without any such artificial means to develop fibrin.

Let us see if a more satisfactory solution of the formation of blood clot and the arrest of hemorrhage may not be found.

We find in the lymphatic vessels coagulable and non-coagulable lymph. It is non-coagulable till it passes through the lymphatic glands. In these glands there are generated corpuscles which

* Iowa Dental Society.

are added to the flowing lymph, after which the lymph is coagulable. The inference is that the corpuscles furnish an element necessary to coagulation. These same lymphatic glands are also one of the sources of supply of corpuscular elements for the blood. Putting these two facts together, it seems to me that we have brought to our notice a very active cause of coagulation to be found in some element supplied by the blood corpuscles.

Not alone this, but other causes operating in connection with these show how completely nature has provided against dangerous hemorrhages. If it be true, as Draper states in his physiology, that millions of corpuscles die at every breath, their carcasses must be floating in the stream of blood to be entangled in the thready fibrin formed at the mouths of the bleeding vessels, and become a dam to resist the outgoing tide of blood. This mass of dead corpuscles may account for the black appearance of blood clot.

It immediate connection with the coagulation of blood as a remedial measure, it is interesting to inquire into the part that blood takes in the restoration of the wounded and wasted tissues.

It seems quite evident that blood corpuscles are the active agents in daily nutrition and in separative work, where tissue is lost by disease or by a surgical operation, requiring the reorganization of new tissue.

In extraction of teeth, dentists are accustomed to speak with emphasis of the work of absorption rendered necessary by the operation, as though that were the only function called into exercise, whereas, the reorganization and development of new tissue is a far more interesting and wonderful process in the reparative work involved. The blood cells are the active workers.

Our standard works on physiology tell us that the number of white corpuscles is one to three or four hundred of the red. The great concurrence of authors in making this statement creates the suspicion that they have very generally copied the published statement of some individual experimenter without shedding their own blood to prove the truth or falsity of the statement. Hirs, a German physiologist, took observations of blood from his own arm four times in one day. Before breakfast he found the ratio of white corpuscles to the red to be one to eighteen hundred; before dinner, one to fifteen hundred; immediately after dinner, one to four hundred; one hour after dinner, one to seven hundred; making an average for the day of one to eleven hundred.

As the white are the mother cells, holding within their bodies an innumerable progeny, we see that when only one bursts its tunic, a multitude of red corpuscles are born in a moment to enter

into the blood current. From the experiment of Hirs, before alluded to, it appears that the white corpuscles are fewest just before a meal, and that immediately after a meal the lymphatic glands and the spleen are excited into birth-throes, and multitudes of white corpuscles are born and floated out into the current of blood. From statements culled here and there, it appears that the exercise of any function wastes the bodily tissue, and at the same time makes demand for more blood, and especially the working element of the blood, the corpuscles, to restore the waste. It would seem, therefore, more wise for physiologists to state the general facts relating to the production of blood corpuscles without attempting to give any ratio of numbers.

Greene says that the blood corpuscles multiply by millions whenever a wound is made, and that they rush, in vast numbers, to the scene of the disaster. There must, therefore, be an ever varying relation in number of red and white corpuscles.

Let us look now at their work of repair. After the extraction of a tooth, the alveolus fills with blood. On the exposed surface there is a rapid coagulation, while in the deep portion of the socket the fibrinogen uniting with the fibrinoplastin (an albuminous substance, contributed probably by the red corpuscles, and known as hemoglobin, which constitutes about 90 per cent of the corpuscular elements), form a thready fibrin, which, like a spider's web, stretches across the chafe.

To this fibrous web the white corpuscles cling, and clinging to each other also, they become the living organizers of new tissue. The interspaces between the corpuscles from the continuous zig zag channels of capillary tubes, while into the filaments mass of nerves thread their way like rootlets, completing the organization of embryonic tissue. If, after two or three days, you remove the black clot of blood from the opening into the alveolus, you may see this pale, red jelly-like mass of embryonic tissue filling the socket, possibly two-thirds full.

It appears now evident, that, under favorable conditions, while parieties of the alveolus are being absorbed at their margins, the deeper portion of the alveolus is being filled up with new tissue.

This explains why absorption of the alveolar border is so much more extensive in some than in others, after tooth extraction. The absorption is, measurably under the control of the dentist. After the extraction of a tooth there is usually a desire on the part of the patient to freely rinse the mouth with water. This desire is favored by the dentist, and a copious supply of water is furnished to be forced in currents around the mouth so long as the blood con-

tinues to flow, thus washing out from the sockets the very blood out of which nature designed to gather the materials for the organization of new tissue. Absorption ceases where reconstruction begins. I regard it, therefore, as bad practice to wash out the blood from sockets of extracted teeth. No water should be given the patient till a clot has formed and fresh blood ceases to flow.

Prof. L. C. Ingersoll, Keokuk.

REGULATING TEETH.

In regulating teeth, the widening of the arch is sometimes necessary in one jaw and sometimes in both, but it is a very tedious and difficult operation in many cases. If you expand the upper arch you have to expand both. Dr. Kingsley, one of our earliest and best writers, says that, after all, the great desideratum in regulating teeth is to have a perfect occlusion—to have as many teeth brought into use as possible in the mastication of food.

We can often simplify a case by the extraction of one or two teeth and get the same results that we would get by a more round-about way. Having taken out the first bicuspid, and then by putting metal bands around the second molar and cuspid tooth, with little hooks properly placed, and by the aid of rubber bands, the teeth could be drawn back with but very little difficulty; then taking the bands off the cuspid and putting the same on the lateral, drawing it back in the same way. It can be done if the patient is not over seven years of age, in a comparatively short time. Pressing out the incisor tooth is also readily done.

I would like to take exception to some other things stated. He said that in taking the impressions for models he took them in plaster of Paris. There are some gentlemen who believe in plaster of Paris for all impressions. In going into the office of a dentist in this city, I was surprised to see on a table about five hundred pieces of plaster. He said he had been taking an impression of a case of irregularity. I have never had any difficulty in taking just as accurate an impression as I needed for cases of irregularity in modeling composition.

In the rapid enlargement of the arch, there is danger of opening the suture where the two faces of the maxillary bones join each other. A friend of mine was exerting a great deal of pressure to expand the arch laterally; noticing that he was making unusual progress, he discovered that the sutures were opening, and he had to take off the appliances and let the case rest. *Dr. Guilford.*

OBSOURE PAINS IN AND ABOUT THE JAWS.*

To say simply that one has neuralgia is, of course, but to repeat in English the classic term.

The causes of so-called neuralgic pains are various; these being of local or systemic meaning. The most common seats of these pains are of the supra-orbital region, superficially, and of the line of the anterior portion of the superior longitudinal sinus deeply. The pains of these regions are commonly due to eye-strain. I had yesterday in my office a lady who has been suffering for a long time from such pain. There is such a continuance of discomfort that she has felt that life was not worth living. It was natural for me to look at her teeth. I found nothing the matter with them. Then I began to go around the circle, and, finally, I came to her eyes, discovering that she was myopic in the left eye to the extent of a sixth, and in the right eye to the extent of a fifth. I found something else, and this was perhaps of more importance than the first,—she had an insufficiency of the superior rectus muscle of the right eye, requiring a fifth prism for its correction, and similar insufficiency with the inferior rectus of the left eye. Take these conditions, and I think you will readily recognize how a person could be a continuous sufferer.

Once I had visit me a surgeon of the United States navy who had come from China to his home, under the impression that he had softening of the brain. He told me he had consulted many physicians who came into the Chinese waters without having any relief given him. The pain was continuous. I examined that man's mouth first, and found he had one of the most beautifully filled upper bicuspid teeth that I had ever seen. That was the only thing I could see in the way of a diagnosis. I extracted the tooth. The pain was gone quick as a wink. Think of the relief to that man!

Here, in the last two cases mentioned, are opposite aspects,—the one, muscular insufficiency; the other, an irritation of a branch of the fifth nerve. It does not imply, as to the first, that the pain came from a muscular radicle; it might have come from some distant part. I want only to impress that pain lies in cause, and that we should find ourselves able to expose cause, whatever or wherever it may be.

I could mention from my own experience a number of cases wherein insufficiency of the recti muscles has proved the cause of pain. Take a person, for instance, who focalizes well. He will take

* Read before the New York Odontological Society, by J. E. Garretson, M.D., D.D.S., and published in *International*.

up a paper and read it perfectly. The accommodation is all right; but after reading any time, from ten minutes to two hours, the letters begin to blur and pain comes about the head. Almost always the trouble is found here to lie with muscular insufficiency. If such fault be corrected the pain is cured. Another thought is to be thus expressed: a man has long prided himself on having grand eyesight; take one of our own profession,—he has worked for years untiringly; finally, he operates for only half a day, and says, "I cannot work as I used to. I feel the power is leaving me." His trouble lies, more than likely, in a presbyopic condition of his refractive apparatus. He needs a plus lens. Take a piece of ordinary window-glass and grind it down to a sixtieth convex, and his power is found to be in its old place. But if our colleague knows nothing about plus glasses, he goes on in a misconception of his condition that proves the destroyer of his usefulness.

Next, reference is to be made to pain located within the lower jaw, or external or internal to it. Inflammatory thickening of the inferior dental nerve always presents, as I incline to accept, a certain easily observable tumidity of the gum-tissues overlying the bone. This being seen of persistent character, the indication is for exposure of the nerve in its canal and its removal; but if the latter stages of secondary or the initial conditions of tertiary syphilis be evident, or if rheumatism be present in other parts of the body, operative procedure will be wisely delayed until fair trial is given of the iodide of potassium.

Just here I have a personal experience to offer that, I am sure, is of large value. It relates to cases where removal of the inferior maxillary nerve has been practiced in the canal, no benefit resulting, but where cure follows neurectomy done at the foramen ovale. Differences as to result exist here, with the fact that it is the mylo-hyoid branch that is involved. Again, full and complete neurectomy of the inferior maxillary nerve, unattended with cure of neuralgia, has satisfied me that the source of pain lies in the incisive branch of an opposite nerve that has passed beyond its ordinary line and is prolonged in its neighbor's canal. Pain confined to the mental region of one side finds explanation most frequently in a lesion existing at the mental foramen.

I think this matter about tumidity must certainly be new to some of you, for I have never seen it referred to in a book. A person comes to you with neuralgia in the lower jaw. You perhaps have had a great many cases of neuralgia of the lower jaw, and have not done much with them; but I think you will find that always where there is a thickening of the nerve-sheath, or where the lesion

lies with the nerve-canal, there is always an external exhibit in tumidity. This is my individual experience. For myself, where I do not see such tumidity, I operate only in the faint hope of relieving a person, but I never do it with confidence; but where I see the tumidity, I treat with assurance. If one comes to you with a condition of neuralgia in the lower jaw, and if you find tumidity and rheumatism as well, you may fairly think of the lesion as lying with the rheumatic condition, and endeavor to verify your diagnosis by antirheumatic treatment.

Neuralgia along the line of the temporal artery is always associated with the auriculo-temporal nerve. Its cause, if my experience be not unique, lies with exhaustion. It is a pain rare to men, but common to weak, over-worked store-girls. Indication is for rest and change. The sea-shore is the best place to send the patients. As a tonic, my individual experience favors the use of a formula as follows:

R. Hydrarg. bichlor.....	gr. i	
Liq. arsenici chlor.....	3 ss	
Tinct. ferri chlor.....	3 ii	
Acid. hydrochlor. dilut.....	3 i	
Syr. sarsaparillæ.....	3 vii.	M.

Dose.—Tablespoonful one-half hour after meals.

Thomas Edison says of patents: Our patent system puts a premium on rascality. I have taken out 700 patents for my inventions, but I never had one moment's protection. The people suppose I have made money out of my inventions. The truth is, I have never made one cent. All I have made has been out of manufacturing. The companies with which I am connected have spent millions in trying to defend the patents. I have spent about \$600,000 myself, and I believe I would have been \$600,000 better off if I had never taken out a patent. What I have made is because I have understood the invention better, and have been enabled to manipulate the manufacturing better than those who pirate the patents. I could not have made anything had I not had a large capital at the back of me, and the ordinary inventor gets no benefit whatever. His certificate of patent is merely a certificate of the poor-house, and hundreds of inventors are ruined. They spend all they have in getting out their inventions, and then they die poor and disappointed. Our patent system is a system of villainy.

NITRATE OF SILVER FOR CARIES.

I have been requested to detail my manner of procedure in the treatment of decay with nitrate of silver, which I have, after much consideration, decided on as a method whereby we may save temporary teeth without cutting or pain, and to illustrate the effects of the treatment by this patient who is with me. I use crystals of nitrate of silver, because there is less impurity in them than in the stick. Nitrate of silver forms a definite compound with albumen and fibrin, which is dissolved in but few substances. The caustic is so very hostile to microbes, that they will not touch the decaying substance of teeth, after it has been compounded with the salts, because they do not like it, and keep away. The time to apply it is when the teeth begin to decay. The effect is more satisfactory on buccal and labial surfaces than on the other portions of the teeth. You can see this boy's second temporary molars, the two upper especially. When he was about four years of age he complained of their hurting, so that he could not brush them. I found almost the entire buccal surfaces decayed, presenting a whitish color, and at once made an application of the salts, in March, 1886,—five years ago last March. They have not been treated since, and there has been no further decay.

The proximal cavities in the lower molars were treated in June, 1887, and re-treated in November, 1889. You see the characteristic effects of the silver, and that they have no appearance of active decay now. I have treated many cases, not only in temporary, but also in permanent teeth, and have saved them for years, without any excavating, filling, or cutting, but simply by treatment with the pulverized crystals. I pulverize the crystals in a mortar. The excess of moisture should be absorbed from the cavity, then a wood point, moistened enough so that the crystals stick to it, should be touched to the pulverized crystals, and the salts thus applied to every part of the decayed portion. Do not be afraid of getting too much in. I have not had any injurious results. It will not effect the teeth at all where they are not decayed. In February and March, 1888, I took a lot of children out of the primary schools and treated their teeth in this manner. In May, 1891, I examined 124 cavities out of those, and found 87 where the treatment was perfectly successful, and in many mouths where it was tried other parts of the teeth treated had decayed and lost much of their substance, while the portions treated remained intact.

—Dr. Stebbins, in *American Association*.

PREACHING VS. PRACTICE.

A popular dentist of Austin relates with a relish the following reminiscence of his lecture days, in the *lang syne*, before so many improvements had been made.

Old Professor Root, a very earnest and emphatic man, used to impress it on the students that "the mission of dentistry is to save teeth, not pull them." This had been repeated so often that the boys made a by-word of it. One day the professor told the class that he had read somewhere that in England once there was a splendid lion, in some garden or collection, which suffered agony from a decayed tooth; that in consequence of the pain and suffering, and fear of pain in attempting to eat, the noble beast pined away and lost flesh, and finally died. The royal owners had in vain offered a large reward—£20,000, the professor said, for any man who would extract that tooth and save the lion.

Rising to his tiptoes, with clenched hand and teeth and a determined look, the old professor said, most emphatically, "If I had been there, sirs, and know what I know now, I would have chloroformed that lion, put in one of White's patent jack-screws, pried the mouth open, and with one of my patent-back-action-self-adjusting-turn-keys I would have extracted that tooth, sirs, and pocketed the little twenty thousand pounds before breakfast!! Yes, sirs! I would!"

Young C., a student on the top bench, rose up, and holding up his hand as a sign that he would like to speak, the professor sang out: "Well, what is it?"

"P-p-p-fessor," said the student, "d-d-don't you think, sir, it would have b b-been better, sir, to p-p-plug that tooth? The m-m-mission of d-dentistry, you know, sir, is t-t-to—"

"Good-morning, gentlemen," said the professor, seizing his hat and hurrying out, amid the yells of the tooth disciples.

—Texas Sanitarium.

The very enthusiasm which has urged men forward in pursuit of a specialty, has been the rock on which many have split. They have been led so far astray by their enthusiasm for a chosen specialty as to forget the relation of that specialty to the stock from which it sprung—the relation of the child to the parent—the relations of the eye, the ear, the teeth, to the whole body, and the relations of the different members of the body to each other.

L. C. Ingersoll.

BE SURE OF THE CAUSE.

A gentleman called on me about two years ago, suffering from sore throat on the left side, neuralgic pains in ear and side of face and head. His physician had been unable to treat the trouble successfully, or even to diagnose the cause. I found he was biting his cheek severely between his wisdom teeth. I removed the upper one and dismissed him. A few days since he returned to my office and reported having derived immediate relief after the operation.

This time he had come to have another tooth extracted, as he was biting his cheek opposite his first molars on the same side. I found a tumor, about as large as a good sized pea, on the inside of the cheek, opposite the teeth mentioned. His teeth were sound, but worn off flat. The outer edges were quite sharp. His cheeks were fleshy, and as soon as he opened his mouth the tumor passed in between the teeth, and lay in position to be bitten when his teeth came together. I ground off the sharp edges of the teeth, grasped the tumor with a pair of tongue forceps and drew it gently into the mouth, while my assistant held the cheek in position with a mouth mirror. The tension on the tumor made it easy to snip it off at its base with a pair of curved scissors. The patient left delighted that he had been relieved of his trouble without the loss of his grinder.

—R. E. Sparks, *Dominion Journal*.

CARAT, GRAINS AND PERCENTAGE.

The word "carat" comes from the Abyssinian name of bean. It corresponds in weight with a species of East Indian bean, and was originally used only as a weight, in the same manner as our word "grain" comes from a grain of wheat, and has also its average weight. The exact relation of the carat to the grain, Troy weight, is, in round numbers, as 4.608 to 1.185; or, in other words, 1.185 carats are equal to 4.608 grains Troy. By division of the last number by the first, we find for the weight of a carat 3.88 grains very nearly. The carat is the weight by which jewelers sell diamonds. The carat is now only used for weighing precious stones and pearls, because the grain is too small.

In ancient times, it was used as the unit of weight for gold, but is now, on account of the greater abundance of that precious metal, superseded by the ounce. In regard to the alloy of gold, it has been accepted to take twenty-four carats of gold or ninety-three grains, very near, as the standard of pure gold, and to call gold in

which twenty carats in twenty-four carats are pure gold, gold of twenty carats; when three-fourths is pure, or eighteen carats in twenty-four carats, it is called eighteen-carat gold. So in regard to the alloy of gold, the word carat has become similar to the expression of a percentage, with the difference that twenty-four is substituted for one hundred. So eighteen-carat gold is identical to seventy-five per cent fine; twelve-carat to fifty per cent fine, etc. That this manner of estimating the value is kept up is simply due to the custom of following the duodecimal system in making alloys, which naturally drives us to the expressions, seventy, eighty, or ninety per cent when speaking of the fineness of the most valuable metals.

—*Exchange.*

For the last ten years the attention of the medical world has been specially turned to antisepticism and sanitation. Every state and every city has its board of health. It is made their duty to look after the public health. For the furtherance of this object, they visit swamp lands of the state and the marshes, and suggest methods of drainage, as a means of preventing the prevalence of miasmatic diseases. They visit the streets and alleys of the city and make note of the low and wet places where filth gathers and forms a seething mass of corruption to send up its effluvium to poison the air.

Every physician feels bound in the interest of his patients to look after the surroundings of their homes and places of business, if the symptoms indicate the presence of sporadic germs. See him out on a morning call; his patient is feverish, has a sore throat, is threatened with diphtheritic inflammation, his stomach is deranged, and appetite gone; his physician suspects the presence of some dangerous effluvium arising from decomposition of animal and vegetable matter; he goes out into the street to see if he may discover any swamp lands near; he goes into the back yard to see where the kitchen slops are thrown. He looks over into the alley to see if he may find any dead chickens, spoiled meat or other carion decomposing, but finds nothing of a dangerous nuisance by his rearch. Look now into the mouth of his patient; there is the dead chicken lodged between his teeth; there are the carion carcasses of microbes, mucous cells, pus cells, by the thousand, mingled with epithelial scales and other dead animal matter, emitting an effluvium which if emanating from the back yard or alley, any health officer would be warranted in calling the police for an abatement of the nuisance.

—*L. C. Ingersoll, in Am. Journal.*

TEN FAMILIES OF DRINKERS, AND TEN OF SOBER MEMBERS.

Demme studied ten families of drinkers and ten families of temperate persons. The direct posterity of the ten families of drinkers included fifty-seven children. Of these twenty-five died in the first weeks and months of their life; six were idiots; in five children a striking backwardness of their longitudinal growth was observed; five were affected with epilepsy; five with inborn diseases. One boy was taken with chorea and became idiotic. Thus of the fifty-seven children of drinkers only ten, or 17.5 per cent showed a normal constitution and development. The ten sober families had sixty-one children, five only dying in the first weeks; four were affected with curable diseases of the nervous system; two only presented inborn defects. The remaining fifty—81.9 per cent—were normal in their constitution and development. From this series of investigations we derive the sad truth that among the children of drinkers the prevailing mortality is fearful, that the survivors represent a pitiful crowd afflicted with unsoundness of mind, idiocy, epilepsy, and other disturbances of their nervous system, and that only a very small proportion of the descendants grow up as useful members of society.

—*Herald of Health.*

Dr. C. A. Timme, of New York, gave a clinic at the last American Association, illustrating a method of making porcelain inlays. A low-fusing porcelain is fused into a matrix of pure gold foil, which has been obtained by burnishing No. 60 foil into the cavity with semi-hard rubber points. The powdered porcelain is mixed with water, and by means of a pointed badger's-hair brush carefully laid into the matrix, which is then held in the flame of a gas or an alcohol lamp till the porcelain fuses and entirely fills the cavity of the matrix. After cooling, the gold foil is stripped from the inlay, and it is ready for insertion into the cavity by means of oxyphosphate. Dr. Timme also applies the porcelain to the faces of all-gold crowns by cutting out the buccal surface and soldering into the inside of the crown, securing thereby a shallow cavity, into which the porcelain is baked in the lamp as before. Care must be taken not to use a solder of lower carat than twenty.

Dr. Truman W. Brophy operated on a diseased antrum, at the American Association, in which an abscess had formed a year prior to the operation. The antrum had been opened through its an-

terior wall for the purpose of securing drainage. The first molar tooth was absent,—the one which no doubt gave origin to the disease,—and it was through its former alveolus that a large opening was made. Dr. Brophy, in explaining the case, said :

“ Abscesses of the antrum should be drained at the most dependent part of the cavity, and the point best suited for the opening is, as a rule, at the location of the first molar tooth. It is as impossible to secure perfect antral drainage by making an opening through the anterior wall of the cavity, as it would be to place a barrel on its end and expect to completely drain it by drawing the plug from the bung-hole. A platinum tube was made and fixed to a band which was made to fit a tooth adjoining its opening, and it was thus firmly held in place. The patient was directed to plug the end of the tube before taking food, so as to prevent the passage of food in the antrum. After meals, the tube should be kept open that perfect drainage might be effected. Antiseptic solutions and insufflations were prescribed.”

From thirty-three colleges there were graduated last year one thousand two hundred and forty-one persons, an increase of two hundred and seventy-eight over the preceding year. The total number of graduates during the past six years (1886-1891 inclusive) is four thousand eight hundred and forty-six. About twice as large a number of students are graduated now annually as there were five years ago.

Of the more than twelve hundred graduates this year, it required the combined strength of thirteen colleges (more than one-third of the entire number) to graduate less than one hundred students. Of the remaining eleven hundred, the power of eight more resulted in about two hundred and fifty graduates, while the remaining three-fourths—being about nine hundred in number—are the outgrowth of the energy of twelve colleges.

—Louis Ottoly, in *American Association*.

Dr. Crouse says he does not find it necessary to go into all this scientific gymnastics to fill pulpless teeth. He first got a good free delivery into the tooth and pulp chamber, and then put in the carbolic acid, and, with a rubber plunger that filled the aperture, he just jumped on to it and coagulated the whole business and trouble fore and aft ; and so far as abscesses had to do with his practice, he had found only three that he could not drop.

NEW DENTAL COLLEGE.

A school of dentistry as a department of the University of Buffalo is an assured fact.

"Space is reserved for a dental college in the new building for the University of Buffalo to be erected on High street," said the Secretary of the Faculty, Dr. John C. Parmenter, last night. "There will be from six to ten dental chairs, in which students will be taught all the details of dentistry. There will be also a laboratory in which they will make up the different formulas of fillings. There will be a faculty of ten or twelve, and the use of the lecture-room will be given for a course of dental lectures."

Dr. W. C. Barrett, the well-known dental surgeon, said last night when questioned about this matter: "Without doubt a dental school will be organized this fall in the new building, as soon as it is completed. A dental college in connection with the University of Buffalo has been desired for years, and a part of the new University building to be erected on High street will be reserved for a School of Dentistry. This will make four branches to be taught in the University, the other three being medicine, pharmacy and law."

"What has been done toward the organization of a dental school?"

"The matter is in a crude state at present. It is not fully determined as to what the organization will be, or what will be connected with it. I could probably give you the names of a few dentists who will almost certainly be of the faculty, but there is no use of mentioning their names and leaving out the names of others who will have a part in it.

"Not one man has yet been named positively and definitely who will be connected with the school. The City Dental Society has referred the matter to a committee, composed of Dr. Southwick, Dr. Straight, Dr. Freeman, Dr. Snow, and myself, to consider the feasibility of the organization of a dental school. The committee is not yet ready to submit its report. Nothing further can be done at present.

"There will have to be a meeting of the council of the University before I can give you further information. The council will probably authorize the organization of the School of Dentistry, and the organization of the school will follow. But there can be no meetings to take such action at present, as Chancellor Sprague is in the Bermuda Islands, and Vice-Chancellor James O. Putnam is in California."

A FEW CASES IN PRACTICE.

Miss H—— wished me to make a substitute for a superior lateral incisor, lost by a fall a few years previous. Implantation was decided on. A suitable tooth was procured and prepared by filling from apex to crown with gold. The tooth was placed in a warm solution of hydro-naphtha, with all instruments to be used, and some small pieces of sponge for washing out the socket. The hands were then thoroughly cleaned and disinfected. The gum was sponged with ether, and a circular incision made, removing a small flap of tissue. The socket was commenced and the required depth gained with one of Ottolengui's medium sized reamers and enlarged with a Rollin's abscess knife, till the root of the tooth was a tight fit. After a final and careful cleansing of all loose bone chips, the tooth was driven home, considerable force being used. A gold splint was adapted and securely ligated to the incisor and cuspid, and the implanted tooth firmly fastened to the gold.

The inflammation was somewhat severe for six or eight days, when the parts began to assume a healthy appearance, wash of listerine, boracic acid and water was freely used. The splint was removed in less than four weeks, and when I last saw the patient six months ago, the tooth was firm and healthy, after more than two years of use.

Mrs. G—— had a pulpless superior cuspid, the lower two-thirds of which was decayed and broken away in the direction of a line drawn from about the center of the distal slope, to near the gum on the nasal surface. The remaining portion of the crown being much decayed and hollowed out, it was not deemed advisable to restore with gold, and on account of extensive recession of gum on labial surface, it was not a favorable case for crowning. About the only resource seemed to be a porcelain tip, and one was accordingly ground to fit, from one of Ash & Son's molar teeth, this being preferred because of its non-porosity. A platinum pin to extend into the canal was soldered to the pins, and after gaining, as nearly as possible, the required shape, it was set with oxyphosphate, and after one day was finished to suit and polished. As a good union was secured the joint was visible only on close inspection.

A pulpless superior first molar was treated in a like manner for another patient; about one-third of the mesio-lingual contour being restored. It has done well, and we believe it will continue to do well.

Chas. C. Patten, Boston.

A MOUTH LAMP IN CROWN AND BRIDGE-WORK.

The following described mouth alcohol lamp will be found a ready and effective means of applying heat for the adjustment or the removal of crowns, bridges, etc., secured in position by means of gutta-percha.

It consists simply of a small homeopathic vial, without a lip, with sufficient cotton thread, or twine, to nearly fill it. One end passes through a groove cut in the cork, forming the wick. To use it, place in the vial sufficient alcohol to saturate the wick. Place the cork in position, allowing the wick to protrude sufficient only to produce, when the lamp is lighted, a very small flame. This flame is so small, and the device so readily handled, that there are but few positions in the mouth where it cannot be so used that the flame is in direct contact with the fixture it is desired to heat, and there held sufficiently long to effect the desired object without causing discomfort. It is surprising how quickly a crown can, by this device, be sufficiently heated to effect its easy removal. Generally, a few seconds only are required, so short a time, indeed, that the same cork and glass vial has been used repeatedly, though the lower part of the flame is in contact with both. The vial should be without a lip, and the cork should protrude but slightly, or a small loop of wire may be inserted in the cork to move it in or out, which regulates the flame much better.

The use of a napkin, either wet or dry, to protect the lips, or to prevent the patient's breath blowing out the flame is, at times, required. The small flame is very easily extinguished; it is, therefore, best to have a larger lamp at hand to relight it, if required. I have had this device in use for some time, and find it useful and effective. Avoid a too free use of alcohol—not more than enough to barely saturate the wick—a few drops only, are quite sufficient.

Naaman H. Keyser, Germantown, Pa.

[Dr. Keyser sends us a sample, that is certainly unique. It is a tiny vial with a tiny wick, and it makes a tiny flame.—ED. ITEMS.]

Would a physician be justified in cutting off a man's leg because the symptoms were against the *probability* of recovery? And is a dentist any more justified in killing an exposed nerve of a tooth, because he believes the probabilities are against successful treatment? In both cases, the best possible should be done to continue life and usefulness, death should be the *dernier ressort*.

“HOW SHALL WE EDUCATE THE PEOPLE?”

Under the above title, a writer in the January ITEMS, reminds me of an incident at a State Dental Convention a few years ago.

The old question as to the relative merits of gold and amalgam as a tooth preserver was being discussed. Professor P——, championing the cause of amalgam, and a Professor W——, that of gold.

The discussion had become quite heated, and while Professor W—— was animadverting quite earnestly against the use of amalgam, Professor P—— excused himself to the convention from taking further part in the debate, stating that he had an engagement to dine in the city with some old friends. As he left the room, I followed, and on reaching the sidewalk, I said to him, “From Professor W——’s remarks, I judge he would not use amalgam under any circumstances.”

Professor P—— answered, with a snap in his eye, “He and I practice in the same city, while I use an ounce of amalgam, he uses a pound.” So Mr. S—— would have the readers of the ITEMS to understand that he conducted his business on a much higher plane than Dr. G—— or “Quarter-of-a-century B——.”

The following will indicate to the readers of the ITEMS the practical methods Mr. S—— employs in educating the dear people, and the high standard he holds for the profession:

“Do you need teeth? If so, come to Smith’s dental office, over Rizer’s store, South side, and get them at the following prices for the next thirty days: White’s or Justi’s teeth (the best in the world), \$10 per set; Wilmington’s, \$8 per set; Johnson’s and Lund’s and all other brands, \$5. These teeth are put up on rubber, and are guaranteed to be just as represented.”

When an *eminent* dentist transmits such useful knowledge through the press as the above, is it any wonder that the “profession would jump on him with both feet?”

How can we expect the public to consider their teeth of any value when the dentist does not value them at over \$5 a set?

Shepherd M. Gaston, Centerville, Iowa.

We are generally what we will to be; not what we wish to be, perhaps; for we all have desires and aspirations and schemes above our will to be and to do, and we have weaknesses and environments that tend to drop us down. But if a healthy trained, strong trained will has the reins, obstacles are overcome and success is achieved.

MEETING OF DENTAL EDITORS (?).

Is it not about time that the dental editors meet and effect an organization? Dental journals were probably never before read so extensively as now, and the in-roads they have made on the profession in the past few years are very marked. The dental journals advocate raising the standard of dentistry, and individual efforts of editors in the past have done much toward advancing this cause. It is a great question in what way a dental editor can do the most good toward advancing dental education in general. The journals are the teachers of the profession, and much responsibility rests on each editor; he is looked on as an instructor, an educator; and while the journals are doing a vast amount of good, it seems as though, by friendly conferences, the editors might advance methods and means that would assist in furthering the work that is expected of them. At the World's Columbian Dental Congress next year will be a fitting time and place to assemble, and the *Ohio Journal* for one, would like to see such an organization effected. Brother editors, what say you?

—*Ohio Journal.*

[This would certainly advance good fellowship, and be likely to result in many good hints for journalistic improvement—ED. ITEMS.]

A FAULT OF THE PHYSICIAN.

This has been one of the faults of the medical profession, that they have not included the teeth and dental lesions as factors in the diagnosis of nervous and functional derangements. They have, till within recent years, treated the teeth as a piece of independent mechanism, a mere machine, as of little more account, physiologically or pathologically, than a set of false teeth. And, strange as it may appear, some dentists seem to treat the teeth in the same manner, forgetting their vital relations.

"*Nothing but toothache*," a phrase so commonly heard, just as though disease of a tooth was of little account, worthy of no one's attention beyond the immediate suffering, which may be entirely relieved in a moment, if one has pluck and physical endurance to permit extraction. Then, too, if going on from worse to worse, without relief, and one, another and another tooth becomes involved, and all the teeth ache, any mention of it is thought to be a mere childish complaining and fretfulness—nothing but *toothache*.

Though the trouble continues at intervals for years, it seems

never to assume sufficient importance to attract the attention of the family physician. And if the family dentist is applied to for relief, he sees it to be caused by exposed nerves, confined to the area of one or two teeth, or he sees it as a peridental inflammation, involving the overlying gum only. Neither physician nor dentist seem to have comprehended the far-reaching nature of the trouble. Any one might have observed that the years of suffering had wasted away the flesh of the patient; had driven away color from the cheek; had thrown dark shadows around sunken eyes; driven away sleep for many a long night, robbed appetite of its zest, and given to the stomach pain for pleasure. But no one thought it possible for mere toothache to do this.

In the meantime, the patient has been treated for neuralgia, gastritis, cerebral disorders, nervous headaches without number, and has been bolstered up with tonics for nervous prostration, to little effect and no permanent improvement. Such may be a result of toothache.

—L. C. Ingersoll, in *American Journal*.

A physician brought to my office March 10th, 1891, a little girl, aged five and-a-half years, having a very pronounced deformity of the outer ear.

The anti-helix was bent on itself, forming a valley or depression extending laterally across it from before backward; the helix consequently being drawn forward and downward at its center till the ear was considerably lopped.

By pressing with the thumb on the posterior surface of the anti-helix and two fingers on the anterior surface of the helix, the ear was restored to its proper shape.

I oiled the external or outer surface, and held it in place till I covered it with plaster and allowed it to harden, after which I removed it and varnished the edges, replaced it, and took an impression of the posterior surface. I removed both pieces from the ear, placed them together, and sealed them by an investment of plaster, and poured a model of Mellotte's metal.

This model I molded in sand and obtained a zinc die for each surface of the ear, on which I made two very thin plates of white vulcanite. These plates I placed in position and held with slight pressure with two springs made from a broken watch main spring.

This appliance was worn just ten months, and has been off about six weeks now, and the proper shape of the ear remains.

The weight of the entire appliance was just two-and-a-half pennyweights.

R. R. Braxton, D.D.S., Loogootee, Ind.

A CONVENIENT METHOD OF ADDING NEW TEETH TO OLD PLATES.

Dry the plate and stick on a piece of soft wax opposite where each tooth is to be added. Replace the plate in the mouth. If the case be one where the teeth to be added are to replace some which have been extracted, press the soft wax up over the gum. This gives you an impression of the part with the plate in place. While the wax is still soft have the patient close the mouth. This gives you an articulation opposite where the teeth are to be added. While the mouth is shut, see that the wax is not forced away from the gum by the occlusion. Then with a pledget of cotton, dipped in cold water, the wax can be hardened in a moment. You may now dismiss the patient. Remove the plate and run cast. As soon as hard, turn over, and run a little plaster in the articulation, letting it extend to a couple of the teeth on the plate. When this is hard, lift off, and remove the wax. The teeth may now be ground and articulated. This method saves much time for patient and operator and ensures accuracy, and may all be done by the laboratory assistant, except the taking of the impression and articulation.

—R. E. Sparks, in *Dominion Journal*.

SUPPORTING FRAIL TEETH IN FILLING.

Not long ago, I had a lady call on me, to see if it were possible to have a very frail upper lateral incisor filled with gold. Others had tried and failed, and pronounced it an impossible operation.

This stimulated me to put forth every effort to accomplish the task, and I began to study the case, and this thought came to me:

Now, as this tooth is frail and far from being firmly set, it should be supported during the entire operation, and I finally hit on the following plan. I punched five holes in the rubber-dam, slipped it over five teeth, my frail one and the next two on both sides; then, warming some modeling composition, I placed it back of the five teeth, pressing it firmly against and around them, except where I had to fill. This furnished an excellent backing, and, when hard, held the teeth as if they were in the grasp of a vise.

There were two large cavities, one on both sides of the tooth, extending well round on to lingual surface.

I excavated and proceeded to fill, and found the composition served to keep the gold from pushing back, and enabled me to fill with ease the lingual surface. "In union there is strength," and

the patient realized this fact, for instead of one poor weakly member to sustain my pushing and pounding, its neighbors came to its rescue, and shared the "brunt of the battle," giving the patient no pain, and enabling me to produce two fine fillings.

This is not much, and yet it is much, for it enabled me to do thorough work, left the tooth uninjured and brought me the gratitude of my patient. Of course, my patient thinks I am the most skillful dentist in the world, which, if it were not for my modesty, I would admit.

G. A. Stiles, Boston, Mass.

THE TREATMENT OF CHILDREN'S TEETH.—From what has come under my notice, there is not enough knowledge on that subject. Not enough pains is taken to instruct the students, and the dentists, themselves, even seem to need a great deal of instruction. I walk along the street where I live, and a dear little child, not more than so high, stops me and says, "I have been having my teeth pulled out." Less than three years old,—been to the dentist and had two inferior central incisors extracted! The parents did not know any better. They thought they must do something, and the dentist was so lacking in knowledge that he would even consent to do that. I have also been shocked and grieved in the colleges. They have a room which is called the infirmary, into which patients are invited to be operated on by the students. A young mother comes in and brings her little babe, which has some teeth that are aching, and they take the child in there and set a raw student to extract those teeth! You do not want to extract children's teeth. There is more harm done by interfering with the deciduous teeth than by all the rest that befalls the mouth. You get deformity and irregularity by it. You must not extract the deciduous teeth, but treat them, take care of them, and keep the little roots till the time comes for them to be removed in natural course.

—Corydon Palmer, in American Association.

In September, 1888, a young lady, Miss R., came to me with both upper laterals badly abscessed. There was a free discharge from both teeth, through a fistulous opening. I extracted one of the teeth, cut off the end of root, filled the canal, put in a gold filling, and replaced the tooth. In a week or two I treated the other lateral in the same way. They have given no trouble since, and are as firm as any of the rest of her teeth. I pronounce the operation a success.

W. D. Taylor, Brownsville, Tenn.

NEURALGIA.

Section of the nerve, and removal of an inch, has never failed in my own hands to result in local relief.

Next, pain of neuralgic character located persistently about the region of the infra-orbital foramen, like that of the mental locality, is not unlikely to have as its cause a periosteal thickening of its membrane as it associates with the opening.

Section of the nerve in these cases is to be practiced by removing the anterior wall of the antrum and making the division well back of the lesion. If the nerve be cut in front of the foramen, the result is transference of the expression of irritation to some other locality.

Next, pain about the bridge of the nose. This I infer out of my individual experience to be associated with a lesion somewhere about the ophthalmic division of the trifacial. I think this pain is persistently defying. It is difficult, as a performance, to cut this first branch, which, as remembered, comes from the brain-case, through the sphenoidal fissure being in close relation with the optic nerve. I am satisfied that in every instance this neuralgia is expressive of a local lesion.

Next is the form of neuralgic pain that is unlocatable, being to-day in this bone or part, and to-morrow somewhere else. For myself, I am at a great loss here, save a lesion discovers itself plainly and openly. Cause may be constitutional or it may be local. An only thing to be done is to look, first, locally; second, systematically.

I had the case of a man whose sufferings were so great that at night he would run around the streets of a village in which he lived, screaming with agony. I did seven operations for him; and one day he said, "Either cure or kill me." I said I did not know what to do for him, save to take away his lower jaw. I took the bone away, and he has not had a twinge of pain since.

One of the most remarkable cases—a case you will see the obscurity of—was as follows: A gentleman came to me with a pain in the eye. He was another one who would shoot himself if he were not to be cured. I became much interested in him. He would come to my office, and while describing his suffering, would suddenly jump up and crawl under the table, where he would scream from pain. I said to myself, "Effect and cause. Can I not, by great effort, by giving time, by spending myself on this man, discover the cause in which the effect exists, and by removing it cure him?" That man had searched for relief through the different

cities of Europe. He had been in New York where he had been under the care of some of its best practitioners. He had been in hospitals without number, without receiving any relief, all of which naturally increased an interest as to finding out, if possible, what was the matter with him. I went all around the circle I was talking about a little while back. But, going all around it, I did not find anything to explain the pain. I began to use atropia in the eye. I made a strong solution of it, but it seemed to have no more effect than if it had been put on a brick-bat. However, I kept on for weeks, and, finally, I did get the iris contracted, and I saw what seemed to be a little tumor coming to the edge of it. I said, "This is the cause," and I kept up the action of mydriatic till I discovered a cysticercus. I watched this with great interest, not being disposed to show it till I was positive. One day, I found it boring into the crystalline lens. I cured that man by removing the parasite, and he has had no twinge of pain in the part since.

We never have a condition of disease without there is the "dis," while our ability to discover the "dis" lies, as before suggested, in the experience had. Some of us direct our experience profoundly in one direction, some in another. This in one great beauty about professional fellowship. I go to one gentleman, who has given much attention to one class of troubles. I ask him to give me his opinion on a case; then he comes to me, in turn, and asks my opinion on something else. This is the way we learn of one another.

The introduction of the microbe into our pathology has put consternation and discouragement into the minds of some, because of his ubiquitous nature, and that he was a *micro-organism*, eluding sight and grasp. Others have been made contented and happy, because disease has been so simplified by the microbe as to make pathology and therapeutics easy. The microbe's natural fear of antiseptics leads him to die of his own accord the moment an antiseptic is exhibited. When now the enthusiastic gold crown-maker sees a broken-down tooth or root, his fancy *instantly* fashions a dazzling gold crown to fit it, and with a drop of antiseptic he adapts the one to the other, and the work is done. Yes, well done *mechanically*, but not well done *therapeutically*, unless that root has been restored to a healthy condition and tested by sufficient time, to prove that it is free from active inflammation, without the probability of an early return to the former condition of disease.

L. C. Ingersoll.

Items.

Considering comparative merits, I would sooner give up all the other dental journals than the *ITEMS*. It is full to the brim of life, philosophy, good sense and fun. *W. E. Gorham, Wiscasset, Me.*

In January, 1888, a young man came into my office with an ulcerated right lateral incisor. After failing to cure it I decided to extract and replant. I found a piece of broom-straw sticking through the apex. After cleaning the tooth and socket and filling the tooth, I replaced it, fastening it with silk ligatures. It has done well. *Dr. J. T. Sutherby, Alma, Wis.*

DELAYED ERUPTION OF A THIRD MOLAR.—An old physician came to my office a year and a half ago, and asked me to look at a tooth that he said was paining him. I found the third right upper molar half way through, the gum partly covering the surface. I lanced the gum, and heard no more till a year later, when he came with pain in the same tooth. It was fully developed, but surrounded with pus, and loose. I extracted it.

The doctor was then eighty-two years of age, and the first appearance of the tooth was about six months previous to the lancing. *W. A. Morgan.*

In filling with gold there is often a failure to gain perfect adaptation along the wall of the cavity, which stands nearest to the operator. This wall, especially if the cavity is in a molar or bicuspid, is usually in such a position that the operator can not see it without the aid of a mirror, and, therefore, defects are easily overlooked. It may as well be recognized at once that it is, in many cases, impossible to gain adaptation against these walls with the ordinary pluggers, used with mallet force. The principle is wrong.

Walls which are in plain sight, and against which the plugger points may be placed with direct pressure, admit of mallet force, but these remote places can be reached only with properly curved pluggers—preferably right angles—and the force used must be hand-pressure. The gold should be *pulled* against the walls, and the force exerted in the direct line in which we wish the material to be condensed. To attempt to fill all cavities with the mallet is to invite failure. *—C. N. Johnson, Review.*

For many years after the general introduction of amalgam, a common defect in the manipulation of this material in proximate cavities on molars and bicuspidis is to allow an excess of the filling material to hang over the margin of the cavity at the cervical border. Unless amalgam is trimmed to shape before crystallization has taken place, it is exceedingly difficult to dress it down to a proper form. Amalgam, when hard, does not cut so easily as gold. This has, at last, been generally recognized by the profession, and in these days—thanks to repeated caution against overhanging amalgam—we rarely see this defect coming from the hands of a reasonably careful operator.

—C. N. Johnson, *Review*.

On the 18th of last month, a lady of this city called at my office, desiring to have a first lower molar extracted. The tooth was considerably decayed, but indicated only an ordinary case of extracting, but was removed with much effort. It had *three perfectly formed roots*, all nearly the same length. The third root united to the crown in a position that would correspond to the palatine root of an upper molar, and in no place against or forming any portion of the other roots. During the twenty-one years I have been in the profession, I do not remember of seeing a similar case, and the only one seen reported was that of Dr. C. W. Howard, of Watertown, N. Y., in the February ITEMS OF INTEREST, two years ago.

S. B. Hartman, D.D.S., Foyt Wayne, Ind.

The ignorance and credulity of many darkies is so dense as to be nearly tangible. Lately a colored man came into my office, and I saw at once that he was chock full of something. I knew it wasn't watermelon, nor "possum," nor fish, for his countenance wasn't saturated with beatitude. On the contrary, there was about him a nimbus of occultness and hoodoo mysticism. It was his full intent to startle me out of my boots by showing me that *he* knew things I would not have suspected from his appearance.

"'Scuse me, doctah," he began, "but I got sompin mighty portant to talk about. Fust of all, I's clean onto dem sekert things. I knows dah is a powdah what'll make a woman love a fellah. My ole woman been gotten some of dat powdah widout knowin' it at de time, from a niggah 'at lives neah me. She 'fessed it, an' said she loved him's if heaven an' yearth had come together. He put it in her coffee, she's dead shore. She doan want fer to love him, case 'taint right. Now won't you, fer de love ob de Lawd, tell me what to gib her so she won't love him no moah?"

—*Homœopathic News*.

A lady of my acquaintance has the two lower centrals and laterals substituted by a clever piece of home-made bridge-work.

Four teeth were carved out of bone, grooved on each side to fit adjoining teeth, and hollowed out on its base to fit the gum. This adjusted itself admirably to its situation, and could scarcely be detected by the average person. There seemed to be no difficulty in retaining it in position, neither was there any fault found with her speech. I found her very reluctant in allowing me to examine it. She does not bite anything hard with them, but uses them more for appearance.

E. W. Wagoner, D.D.S.

[It is strange to see how a *woman* will accommodate herself to circumstances, and even to awkward contrivances.—ED. ITEMS.]

REPLANTING.—A young lady, aged twenty, came to have left inferior second bicuspid extracted; the pulp was dead and suppurating. Her other teeth were perfect in every respect. She preferred extraction to treatment (in the mouth), but gave me permission to replant, which I did in one hour after extracting. I see her every day, and don't think any one could tell her tooth had been out. It is just as firm as ever, and the lady says she wouldn't know which one had been extracted, except for the filling, her other teeth not having any. Do you think it will remain firm and healthy? Have seen several treated before, yet they were very loose.

Kelly R. Bragg.

[Time will tell.—ED. ITEMS.]

EDITOR ITEMS:—Dentistry in Mexico is not as lucrative as stated in a recent ITEMS. The same item was in one of our local papers, and so I showed it to a rich Mexican. He had a hearty good laugh over it, and remarked that it was another good American fish story. What made it appear rather fishy to me was, that a dentist having a practice of \$40,000 per annum, would leave it. Well, I guess not.

There are dentists practicing in South America (Dentists' Eldorado), who have a practice of \$40,000 per annum, but not one of those will leave such a practice. There is one dentist in South America who does that amount of work, whose brother's teeth we attend to here, and know it not to be overrated; but I don't believe there is one dentist in Mexico that does as well. The Mexican women do not attend to their teeth as well, and do not take as much pride in keeping them so, as the fair Brazilians. This is a well-known fact.

Dr. W. Schlaeger.

The American people, as a nation, are disgracing themselves by having their mouths packed full of gold. You can hardly go anywhere but you will see mouths with scraggy old teeth, but full of gold. The capping of teeth is being brought more into notice, because patients will insist on having the inferior incisors capped all over with gold, which shows all the time they talk. The effect is frightful. I want to urge on you to study to avoid the fault which produces it. It is a disgrace to our American people and to our Association, that, wherever you go, you see persons with their mouths full of gold. It is unnatural, unsightly, and, therefore, in bad taste. I urge you to try to get along without it.

—Corydon Palmer, in American Association.

THE GUTTA-PERCHA TREE.—The steamer Cachar, which arrived at Marseilles recently from Tonquin, brought back M. Serullaz, who went out two years ago on a mission from the French Minister of Posts and Telegraphs in search of the Isonandra gutta-percha tree in Malaysia. The disappearance of this tree threatened with great embarrassment, if not with extinction, the submarine cable manufacture. But M. Serullaz has discovered large forests of these trees, and has hit on practical ways of collecting the gum without destroying the trees, as the natives inevitably do. M. Serullaz has been allowed to transport several hundreds of the trees from ten to fifteen years old to Algiers, and their cultivation will be attempted in Guiana. M. Serullaz has left for Algiers with his cargo, which is artificially warmed on board the Cachar.

—Ohio Journal.

After mentally digesting an essay which I had carefully prepared, relating to causes of professional successes and failures, I am forcibly impressed that instead of a catalogue of details, the following maxim may be deduced, covering everything as regards success in dental practice—and, probably, also success in many other pursuits :

Never be obliged to make an excuse—either to ourselves or others.

This "saw" recognizes all those requirements which, if fully met, never need excuses, but they rather merit and obtain success. If, after trying to the best of your ability, you find yourself obliged to break the rule, do not be discouraged, but be assured you have lost nothing in the effort.

Tack it up in your cabinet, your laboratory, your bedroom ; paste it in your hat ; keep it in mind.

C. D. C.

The *British Journal* says: As must be well known to our readers, each of the States of North America, both in Canada and in the Union, have been passing dental laws which appoint State examiners, before whom men who wish to practice in that particular State must go, whether they possess a diploma or no. This tacit ignoring of the dental colleges has given rise to a good deal of friction. It was felt on all hands that there were some colleges whose curriculum and test examinations were quite inadequate, but, on the other hand, there are many colleges against whom no such charge can be brought; and the grouping of good and bad together has not been productive of harmony. Another objection to the present system is that, if a man who has been practicing in one State wishes to change his abode and move to another, he must again be examined before the board of his new State before he will be allowed to practice. We can scarcely see any injustice in this supposing he moved to an absolutely new country, but as it is only going from one to another of United States it does seem irksome. It is now proposed that a committee of the State boards shall attend the college examinations, and that if they hold these to be satisfactory, their diplomas shall be recognized as titles to practice.

WHEN AND HOW TO SMOKE.—Sir Morell Mackenzie, in the *New Review*, gives some practical advice on smoking. He says, with a little modification:

A lady should never smoke, except after a substantial meal, and if she be a singer or speaker, only after and not before using her voice. Let her smoke a mild segar or a long-stemmed pipe charged with some cool smoking tobacco. If she will smoke a cigarette, let it be smoked through a mouth-piece which is kept clean with ultra-mohammedan strictness. Let her refrain from smoking pipe, cigar or cigarette to the bitter, and, it may be added, rank and oily end. Let the singer who wishes to keep in the perfect way refrain from inhaling the smoke, and let her take it as an axiom that the woman in whom tobacco increases the flow of saliva to any marked degree is not intended by nature to smoke. If she is strictly moderate in indulgence—the precise limit each woman must settle for herself—she will get all the good effects of the soothing plant without the bane which lurks in it when used to excess.

[The only modification we have made in giving this quotation, is that the directions are for a woman instead of a man. Of course, this makes no difference, for the same rule for smoking should apply without distinction of sex. If not, will some one tell us why not?—ED. ITEMS.]

Monthly Gossip.

DR. WM. E. BLAKENEY.

DR. J. G. JUNKERMAN sums up the causes of dental caries as acids and fungi.

DR. VAN WOERT considers the enlargement of the apical foramen, as a rule, bad practice.

ISN'T IT ABOUT TIME that the American Dental Association published its own proceedings?

ANOTHER CASE OF COCAINE POISONING is reported by Dr. T. C. Edwards in the *Texas Dental Journal*.

CARROTS GRATED FINE are a sure remedy for bruises and sores of all kinds. They are cooling, and reduce the inflammation.

"THE TIME HAS COME," says Dr. G. Lenox Curtis, "for the establishment of specialties and special practitioners in dentistry."

I ALWAYS FEEL professionally refreshed after reading the scintillations from the fruitful brain of Dr. Line, of the *Odontographic Journal*.

A DIPLOMA from a reputable college should be recognized in all the States as a guaranty of the professional fitness of the holder of it to practice dentistry. State boards and red tape to the contrary, notwithstanding.

THE USE OF ARSENIC in the treatment of pulps elicited a warm discussion at a late meeting of the Central Dental Association, of Northern New Jersey. The friends of arsenic seem to have had the best of the argument.

IN ACUTE CASES OF PERICEMENTITIS, Dr. Van Woert recommends one part of tr. capsicum, to two parts vin. opii. The doctor believes that carbolic acid is a valuable drug, and that it should not be discarded by the profession.

DR. G. W. MELOTTE says that "The Lord breathed into man the breath of life," and that he "uses some of it in connection with the blow-pipe." This is much better than to indulge in a superabundance of blow without the pipe aforesaid.

"WHEN PAIN CONTINUES immediately after the extraction of a tooth," says Dr. Chupein, editor of the *Dental Office and Laboratory*, "great relief is often afforded by placing in the socket a pellet of cotton moistened with equal parts of chloroform and tincture of aconite."

DR. H. A. SMITH is of the opinion that the methods practiced to obtund sensitive dentine by dehydration are usually efficient, and, if carefully followed out, by the time the cavity is prepared, we will have desiccated the layer of carious dentine in the bottom.

AN EMINENT AUTHORITY on catarrhal affections recommends Hosford's Acid Phosphate as a constitutional treatment for this disease, it being among the very best of tonic excitants of the vocal organs, and particularly applicable in relieving the fatigue and huskiness of voice incident to those who pursue a professional career.

THE MARCH ISSUE of the *Dental Register* contains a valuable paper by Dr. J. W. Van Doorn, on the "Treatment of the Teeth During Pregnancy," in which the writer fortifies his argument by quotations from reliable authorities. The subject is one of vast importance, and ought to have a conspicuous place in dental literature.

DISINFECTOL IS A SUBSTANCE analogous to creolin and lysol. It is a brownish-black, oily liquid, having a density of 1086. It has an alkaline reaction, and contains hydrocarbons, soaps of resin, combinations of soda and carbolic acid. It is said to have very energetic disinfectant properties, is used in the form of emulsion, containing from two to five per cent.

THE SUBJECT OF ORAL HYGIENE, notwithstanding its infinite importance, has utterly failed to receive the attention it demands by writers of our textual literature. Dr. J. Taft, editor of the *Dental Register*, in the March number of his journal, administers a well-deserved rebuke to these gentlemen because of their failure to recognize the practical phase of this question.

DR. PIERCE claims to have had good results in the treatment of pyorrhea alveolaris with the following preparation: "I take," he says, "aristol in a wide-mouthed bottle and put in equal quantities of tincture of iodine, oil of gaultheria, oil of cinnamon, and carbolic acid. It is not gummy; the iodine cuts it and makes it creamy, so that it can be readily used, and it remains without change for days or weeks." This he puts down in the pockets with a small spatula.

THE *New York Herald* is an enthusiastic advocate of death by electricity. Speaking editorially in a late issue of that paper, of the painlessness of this kind of death, it says: "Literally the man is dead before he knows it." What mercy it is to the criminal classes, that, at last, a system has been devised whereby a man, doomed to capital punishment, can be dead before he knows it! We can imagine the horror it would cause one to wake up and find himself dead!

"WHAT THE DOCTORS SAY," in the *New York Herald* from time to time, is of sufficient importance to engage the attention of the medical faculty in both continents. The last "say" having reference to the "source of the pain and inflammatory processes caused by the teeth," is of special interest to the dental profession as showing that, at last, medical gentlemen are beginning to comprehend the importance of understanding the effects produced by abnormal conditions in the oral cavity. The paper published in the *Herald*, Sunday, 3d ultimo, contains nothing new to the dental profession, and is only of interest as showing the trend of medical thought in the right direction.

DR. CROUSE, OF CHICAGO, took an active part in the proceedings of the New York Odontological Society, at the Academy of Medicine, January 19th, last. The doctor prefaced a very instructive talk on this occasion with the following pathetic words: "When I came into the room and remained about five minutes, I had a sensation that I was probably in a kindergarten; and then my attention changed to something else, and the same sensation came over me again when the next speaker took his place, and now, Mr. President, I do not know just how I do feel." I don't know anything about the sensations usually experienced by a full grown adult in a kindergarten, nor do I comprehend the nature of the doctor's second attack, when the "next speaker took the floor and he did not know just how he felt," but, for all that, the doctor has my sincere sympathy and prayers. I am told that he is feeling better now.

THE FOREIGN MEDICAL CORRESPONDENT of the *New York Herald* points out that in pneumonia following influenza, the supreme consideration is to strengthen the heart, and not to wait till this organ begins to show symptoms of weakness. Prostration, in such cases, is so extreme that doctoring the lesions of pneumonia becomes of secondary importance. "On the first or second day of the illness," says this able authority, "forty or fifty drops of a solution of crystallized digitalis (representing one milligramme of the active substance) should be given. On the following day no other medicine should be administered for fear of neutralizing the effects of the digitalis, unless the patient's prostration becomes serious. If about the seventh day, digitalis is required, twenty drops may be given. As the most dangerous period for influenza-pneumonia is not yet passed, this treatment should be carefully considered by physicians. Five or six half-gramme wafers of benzo-naphthol each day, a milk diet, and the use of an antiseptic mouth-wash will go," he says, "far toward restoring the victims of influenza-pneumonia."

Our Question Box.

WITH REPLIES FROM OUR BEST AUTHORITIES ON DENTISTRY.

[Address all questions for this department to DR. E. N. FRANCIS, Uvalde, Texas.]

Question 11. *What is the cause and remedy for a plate which, when first inserted in the mouth, requires some effort to remove, but shortly after will not "stick" at all?*

Do not know cause. Make the plate over. I sometimes use Scott's disk retainers.

T. M. Allen, Birmingham, Ala.

A plate will often "stick" well when first inserted, but may afterwards become loose owing to it settling into the soft tissue, causing undue pressure upon the hard palate; thereby breaking up suction. The remedy suggests itself, namely, to relieve pressure.

T. E. Sparks, Alameda, Cal.

Should say the cause was from the muscles of cheeks, soft palate, or from shrinkage. To remedy: Trim plate to relieve muscles and soft palate or take new impression. Should judge it is a soft mouth and the plate had imbedded itself until the muscles and soft palate interfere and force it away.

Fremont Nye, Wickford, R. I.

Such a plate is restrained at first by pressure on the tissues over the maxillary, incisive and canine process. Absorption of these allows the plate to drop. Remedy: Secure best possible adhesion by relieving pressure of plate on any hard ridge, in center of arch, and scrape model on either side of ridge, so as to allow even pressure on the sides of arch, and not to rock on center ridge. Secure suction by shallow air-chamber between the bicuspid in center of arch.

W. E. Andrews, M.D.S. Tremont, N. Y.

Shrinkage of mouth while wearing plate. Remedy: Take a new impression and articulate the teeth so there will be a small space under the cutting edge of the incisors of about the thickness of a fine separating file. This will bring all the pressure and bearing on the bicuspid and molars, where it should be. Be careful that the plate does not touch the hard bony ridge in roof of mouth, as it will cause the plate to become less firm every day it is worn.

Eugene Goeldner, Watertown, Wis.

A changed condition of the tissues of the mouth must be the cause, and the remedy is plain. It is all important to have the tissues of the mouth in a normal condition when the impression is taken and plate inserted. If a mouth is in a healthy condition when a plate is inserted, and the plate fits and gives satisfaction, it will continue to do so as long as normality is preserved. Rest from use of plate and the use of a suitable mouth-wash for a few days will, in most cases (corresponding to one above case) remedy the defect, and plate will give satisfaction.

B. F. Arrington, Asheville, N. C.

This is true only in mouths of flabby tissue which adheres more closely to the rough surfaces of the new plate, than after it has been worn smooth. The soft tissue is forced into the vacuum cavity, thus driving out the air; the plate is firmly pressed in place, which, on removal of pressure, leaves the bottom of cavity, thus producing an almost perfect vacuum. After the

plate has been worn, the tissue adapts itself to the cavity, filling it completely, thus destroying the vacuum. The sides of the gum offer more resistance to the removal of the new plate than to that of the old, because of less pressure exerted by them after having adapted themselves to the plate. I have partially succeeded in overcoming the tendency to be loose by burring little cavities with slight undercuts in the palatal surface.

D. G. Ferrill, Galveston, Texas.

If with vacuum cavities, it is easily explained and understood, yet I think a large proportion of dentists fail to properly understand the principle of a "cavity," or the indications that, in different mouths, point to the advisability of use or the reverse. Many put them in all plates; but to put cavity in plates for some mouths is the least desirable thing to do, securing but a temporary advantage at best.

To be sure, a plate with cavity, in a mouth favorable to its use, can be made to stick or "stop up" (as the English say), but the mucous membrane soon fills it, and the effect is lost. The complaint is then made that plate has grown loose. If plates without vacuum at first fit tightly, and afterward become slack, I can only account for it on the principle that the mouth does not at first fill every part of the plate, and thus acts as a vacuum distributed over a large surface of the plate—provided the plate excludes all outside air from entering at the edges.

A. A. Hazeltine, New Bedford, Mass.

Faulty articulation is responsible for more failures in dentures than any other cause. The best fitting plate, with good suction, is often displaced by the closure of jaws when patient swallows saliva, or the jaws necessarily close tight. This is sometimes when the anterior teeth meet first, and should not meet at all; when a second or third molar pitches forward at an angle of forty-five degrees, meeting an upper in such a manner as to crowd the plate forward, or when the bicuspid meet upon one side in advance of those on the other.

The second cause will be found in the plate not being in sufficient close contact at the posterior margin or in the center. It may be pressed up so as to exclude the air, yet will spring off. Third cause may be from the plate pressing too hard in the center, causing it to gradually loosen. Fourth cause is when vacuum cavities are used in mouths where the palate has a high ridge, and in such cases the vacuum cavity is positively detrimental. Simply raise the plate over this hard prominence, leaving a resting-place on posterior edge to exclude air.

L. P. Haskell, Chicago, Ill.

Question 12. *What method do you use for holding loose teeth (caused by pyorrhea alveolaris) firm while treating, and for what length of time is it usually necessary to use support?*

Ligate with silk floss. Length of time depends on the case.

T. M. Allen.

Use waxed floss silk or fine platina wire as ligatures.* The length of time depends on the case.

Fremont Nye.

The method is governed by the case. If the teeth are very loose, ligate them to firmer ones on either side with floss; when they are moderately firm,

* Not often required.

fit supporting bands to them either of metal or vulcanite. This appliance is worn till the teeth are firmly imbedded in the surrounding tissue.

T. E. Sparks.

Take impression in soft bees-wax, and adjust (to model obtained) plat. and irid. wire eighteen gauge, on lingual and labial surfaces, as far back as bicuspid, carrying end between teeth or over the top, and solder the ends together; then ligate in place to the loose teeth—time from two to six months.

W. E. Andrews, M.D.S.

I take gold wire, and securing it to the first firmly set tooth on one side of the loose teeth, pass it in and out between teeth to the first firm tooth on the other side; securing to this, pass it back, crossing the wire between the teeth and secure again to firm tooth on opposite side. Time depends upon success of treatment.

D. G. Ferrill.

I make gold bands to fit over all loose teeth, and if one or two firm teeth are banded in, so much the better. I use a narrow band, and if the teeth are separated connect the bands by soldering to them gold wire. Apply the dam and fasten in place with cement as near the cutting edge as possible. This appliance I intend to be worn permanently; and sometimes for added security I insert a couple of gold screws just above the band at the place best suited for support. Frequently, teeth that are just on the point of dropping out can be saved and made useful for years by this method.

C. H. Haines, Dexter, Me.

I have long since abandoned the practice of trying to support and hold firm a tooth, or teeth, loosened by pyorrhea alveolaris. Any effort in that direction is useless and a great injustice to patients.

Restoration to firmness through the agency of mechanical appliances cannot be accomplished.

When the alveola has wasted away by disease to the extent of three-fourths or two-thirds, surrounding a tooth, the best thing to be done for cure of pyorrhea and comfort of patient is the removal of tooth, one or more, and make no effort for restoration of alveola process, for it cannot be restored by any line of treatment known to man.

Pyorrhea can be cured and cured speedily, in a large majority of cases, when proper treatment is applied. Ordinarily, not more than eight or ten days is requisite for cure, provided such teeth as can not be restored to firmness are promptly removed. Such teeth should go, and go quickly, without effort to save.

B. F. Arrington.

Question 13. *I have two patients—sisters—with hypersensitive dentine, as sensitive to touch as an exposed pulp. What is the best method of treatment?*

The best thing I have ever found for this trouble is nitrate of silver (crystals), moistened and applied to dentine. The only objection to its use is the dark color it leaves, but that soon disappears.

A. A. Hazeltine.

Prescribe aqua colicis as mouth wash, creta preparata as dentifrice and ten per cent solution listerine, morning and evening, as wash.

W. E. Andrews, M.D.S.

Have found nothing better than Waitt's obtundent or chloroform, in-

haled till patient is slightly dozy, when, if work is quickly done with the engine, the cavities can be excavated thoroughly. *C. H. Haines.*

Apply tincture of iodine and aconite on cotton alternately for a few days, sealing with wax or gutta-percha. If this does not prove successful, remove soft decay and fill with cement, or some temporary filling, allowing it to remain six or eight weeks. *D. G. Ferrill.*

Dress down smoothly with chisels, or corundum points, shaped to suit, then finish to a fine polish with orange-wood stick and pulverized pumice. If this treatment does not relieve them, apply stick caustic (nitrate silver) for a few seconds. One application is generally sufficient for permanent relief. After use of caustic, repeat stick and pumice to remove discoloration. *B. F. Arrington.*

Apply rubber-dam; dry thoroughly with spunk; use oil of cloves (warm spray preferred); alcohol to remove oil from cavity; then remove as much of soft decay as possible. Insert oxychloride filling to remain a few months, then remove filling and excavate again. Sometimes hot air is sufficient. I fail to find a process relieving sensitive dentine in all cases. *Freemont Nye.*

Adjust rubber-dam; dry thoroughly and apply spirits ammonia to the sensitive dentine, allowing it to remain a few moments. Repeated applications will relieve sensitive dentine, enabling the operator to excavate with but little pain. Use rubber-dam to keep teeth dry and to obtain full effect of ammonia. It also protects surrounding tissues and prevents blistering. Never allow it to touch gums or lips, and never use ammonia in cavities with nearly exposed pulps, as it will destroy them. *T. M. Allen.*

Question 14. *Best method of taking bite for full upper and partial lower?*

This case involves some difficulties outside of those laid down for taking bite in most cases, providing the question refers to a partial plate occupying the place of molars and bicuspid. A good suction to upper trial plate will overcome some faults. In taking bite guard against the pressure of lower teeth forcing the upper trial plate forward. The lower trial plate has a tendency in most mouths to slide back, leaving a space between plate and teeth. In grinding up and placing trial plate on model we must allow for this. It is difficult to give practical rules as cases differ, each presenting individual difficulties to overcome.

Question 15. *Best method of making trial-plate; material used as base plate, and if articulation is found to be good, how proceed further?*

The method of making trial plates depends upon the material used. We prefer gutta-percha or the "Ideal trial plate," manufactured by Francis Head. If articulation is found correct, place trial plates on models in a relative position to that occupied in the mouth, allowing all marked lines on wax to accurately meet, and see that teeth of lower model fit the impression of natural teeth in wax of upper trial plate. Fasten securely and place in articulator.

Question 16. *Should like to know all materials in common use for making dies?*

Question 17. *The different investing materials and when they are indicated?*

The materials in common use for making dies are zinc and Babbitt metal; and the different investing materials are Teague's impression compound, "moldine," plaster combine with pumice, sand, asbestos, etc. Judgment must guide us in the selection, and all heavy soldering in combination with porcelain requires an investment as a protecting medium from blow-pipe flame.

Question 18. *When should block teeth be used for full plates, or should they ever be used?*

Block teeth, when carved for each individual case, are preferable in many cases of rubber work or rubber attachments, but for metal work single teeth are preferred, as they allow for expansion, contraction, and springing of plate, with less liability of fracture, making repair less expensive to patient and more satisfactory to the dentist. Single gum teeth artistically arranged with well-fitted joints are in many cases a decided advantage, used in cases of irregular antagonizing teeth where block sections would be difficult of articulation.

E. G. W., AUSTRALIA.—The recession of gums from perfectly sound teeth, and the loosening of same, may be caused by the teeth reaching a hardened state opposing proper circulation and connection with surrounding tissues. It may be caused by mercury carelessly administered, tartar, diseases of gums, general debility, sameness of diet, etc. Meat and bread eaters are subject to it, and the physicians pronounce it scurvy and treat as such. It is not scurvy, but is sometimes a forerunner of that disease. In cases of this kind, a change of diet, plenty of vegetables and fruit, especially tomatoes and lemons, is generally sufficient, if all accumulations on roots of teeth are thoroughly removed. In most, if not all cases, tartar is present.

Potassa, astringent washes, caustic, tonics, change of diet and cleanliness, form part of the treatment.

Do not be content with a surface scraping, but go to the root of the evil, and the root of the tooth, removing every trace of tartar.

Treatment for pyorrhea alveolaris can be found in back numbers of ITEMS, and will be discussed during the year.

I was in one of the principal drug stores of ——— city, and saw some tooth-powder having the label of the President of the ——— Dental Association on it.

Would this be considered advertising, or not?

It depends wholly on the wording of that label. If the name appeared as an endorsement or guarantee, it would be questionable. If the label enlarged on any wonderful properties contained in the powder, it would be advertising the powder, not the maker.

We think a man can place a label on his own productions without professional discourtesy, but to use full name conspicuously, with full address, in the form of a business card to be sent out or exhibited in a drug store on a box of tooth-powder, would be giving public notice of his place of business, and would be considered advertising.

SUBSCRIBER.—We do not believe in advertising; it is unprofessional; against the principles of all honors conferred on us by our dental colleges, and we could not endorse anything personal experience had not thoroughly demonstrated.

We advise you to correspond with some dental supply company, and respectfully refer you to the publisher of this journal.

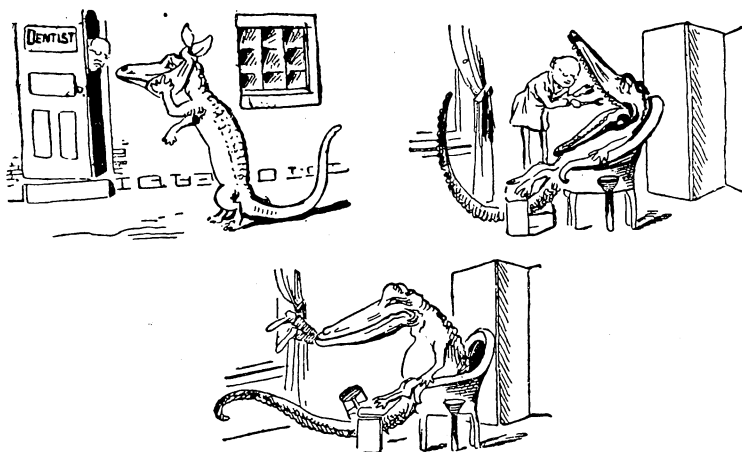
E. N. F.

EYE-STRAIN.

In the last few years, since Stevens wrote his work on Functional Nervous Diseases—in which he professes to cure many of the ills that flesh is heir to, by the cutting of the recti muscles of the eye, and also by the fitting of glasses—we have heard a great deal of eye-strain. We have had similar conditions arise with the men who devote their attention to different parts of the body. Most of the headaches now are thought to be caused by eye-strain, which is caused by an error of refraction or an insufficiency of one of the recti muscles; and for its relief glasses must be fitted or a muscle cut. The eye man is now having his day. The gynecologist had his, and the nose man is struggling hard to be heard. One of them, Hack, of Freiberg, stated that all obscure cases of headache should have their noses examined, claiming that hypertrophic rhinitis is the cause of the trouble. We should not look to any one thing as the cause of trouble, but should inform ourselves intelligently on all branches, so that we will be able to tell when to let alone. We should be able to look beyond the special senses, to the general system. In cases of eye-strain a careful examination should be made, and if needed, glasses must be given. In astigmatism, generally, glasses must be given, and worn all the time. Many cases of so-called eye-strain only need a good tonic, rest, and attention to the secretions—especially the skin; these well attended to will, in many cases, do away with the need of glasses. Many have a rheumatic diathesis. Eye-strain is a fashionable “fad” now (see the medical journals), and is being ridden fast and hard. We should strive to avoid these partial fancies; give them attention, but not be carried away by them.

—Wm. D. Babcock, in *Southern California Practitioner*.

For Our Patients.



HE'S GOT A SNAP.

HOW THE COWBOY'S TOOTH WAS DRAWN.

[My grandson Edgar hands me the following. It is quite cute.—ED. ITEMS.]

Many years ago, writes a Western correspondent of the *Companion*, a group of cowboys rode into the frontier town of Prairieville, and, while cantering down the principal street, came to a sign, "Painless Dentist." They emptied the contents of their revolvers into it, and then one of the company dismounted and announced his intention to go in and get a sore tooth attended to. "And I don't pay no fancy price for it, neither," he muttered, as he walked noisily into the office.

The dentist was a quiet-looking young man of twenty-five.

"See here!" shouted the cowboy, as he advanced toward the chair, "I want a tooth fixed, and I don't want any high-toned price charged, either."

He threw himself into the chair, hitched his belt around in front of him, laid his revolver across his lap, and told the dentist that if he hurt him he would shoot the top of his head off.

"Very well," replied the dentist, with a slight laugh; then you must take gas, for this is a bad tooth and will give trouble."

The cowboy swore, but finally yielded, and with a parting

threat submitted to the respiration, and presently was insensible.

With great skill the man of the forceps pulled the tooth, and then, before his customer regained consciousness, he securely tied him hand and foot to the chair, which was firmly screwed to the floor. Then taking the bully's revolver out of his belt, the dentist took up his position where the patient could see him when he came to.

As the cowboy struggled back to consciousness the first thing of which he was sensible was the dentist pointing the revolver at him, and saying in quiet tones:

"Now, then, don't move. Just open your mouth as wide as possible, and I will shoot the bad tooth off. This is the painless process. No danger, sir, unless you happen to swallow the bullet. Are you ready? Then here goes! One, two, three!"

Bang! went the revolver, knocking a hole in the floor under the chair, and the dentist rushed forward holding out the tooth in his hand to show the now terrified bully, who roared for mercy and begged to be released, thinking that he had fallen into the hands of a madman.

The dentist finally cut the bonds on condition that his customer should restore the riddled sign outside the office. And after paying five dollars for the extracted tooth, which the dentist grimly declared to be the regular price for painless operations, the crest-fallen cowboy departed, convinced that appearances are sometimes deceitful and that even a tenderfoot may have nerve.

THE ANTISEPTIC COURTSHIP.

John Alexander Grubbs, M. D., Eminent Bacteriologist, Past Grand Master in the Art of Cultivating Germs, and Honorary Member of the Order of the Infinitesimal Bug, on first beholding the ample charms of Dr. Grindelia Robusta, felt almost as raptuous a thrill run through his veins, as that occasioned by the discovery of a new species of bacteria. "The microbes of love," mused he, "are multiplying in the pure cultures of my heart. Beautiful Gren-delia! What a subtle infection must have shot from thy bright eyes to my interior organs! and how fortunate that my heart was the part affected instead of my liver, for so powerful an infection would have made me extremely bilious."

Ever after this, when the brave and romantic Germ Killer met the ponderous Grindelia, they chastely ogled each other. After some little delay he managed to get an introduction, and before long was her acknowledged lover.

A charming bacteriological courtship followed. John Alexander Grubbs presented himself at her house in a strictly aseptic condition, while Grindelia strove to render her not meager figure absolutely germless. They spent delightful hours over monocular microscopes, and long *tête-à-têtes* were held, in which such germs as micrococcus, spirillum, phagocytes, etc., were mingled with the softer words of love.

When, after the manner of lovers in all ages, they yearned for the conjunction of lips, they took no risks on swapping microbes. Knowing that the learned savant, Miller, of Berlin, had described twenty-two species of fiery untamed animalcules as roaming in countless herds around the buccal cavity, the hot blood was for once held in check by the cold decrees of Science. Dr. John having swabbed out his mouth and lips with Listerine, Dr. Grindelia thoroughly disinfected her mouth in the same manner, and then followed a chaste and microscopically pure osculation, which was, no doubt, all the sweeter for the scientific delay. When they drank each other's health, it was with boiled water.

They were finally married in a fumigated church, by a disinfected priest. The holy water used in the ceremony was a 1 in 2,000 bichloride solution. The wedding march sounded to the ears of the happy couple exceptionally pure and sweet, for it came from organ pipes whose throats had been muffled with carbolated gauze, so that the notes were strained of every source of infection.

They lived in a little cottage so chemically and microscopically clean, that life in it would have been a burden to an ordinary man, and so inimical was its atmosphere to micro-organisms, that none ever ventured beyond the garden wall, where, however, countless billions sat, gnashing their teeth and showing ever variety of acute despair at their inability to penetrate its boundaries.

—J. B. S. King, in *Medical Visitor*.

A singular difference between a live tooth and a dead one is that the live tooth is much more subject to decay. In fact, the dead tooth is so little liable to become carious that some claim it is impossible, though it may show disintegration. Another singularity is that a tooth lasts very much longer out of the mouth than in it. It is not only exempt from the ravages of caries, but so nearly exempt from even disintegration out of the mouth that it is almost indestructible. Under most circumstances, it will last intact for hundreds of years, and is the last organ of the body to dissolve.

Current Notes.

Nye's Plastic Gold has evidently come to stay. We hear nothing but commendations for it by those who are acquainted with its use; and it would be well for those who are not familiar with it, to give it a trial.

It takes great patience, perseverance and thoroughness to succeed in important enterprises. That is the reason a few have the monopoly of skilled work. Let us not, therefore, be discouraged by opposition, obstacles, or even by inherent defects. The brave man who overcomes them wins, and is all the more conspicuous because only a few succeed.

Dr. H. S. Morgan, of Prairie City, Iowa, says he has copper amalgam fillings two years old, that are doing well yet. "If it has the proper edge-strength when manufactured, I insert it as nearly in this condition as possible. When I want it to set quickly I grind it as soon as the mercury shows itself. If I want it to act slowly, I heat it longer. If any mercury is driven off by the heat, I add as much, grind, kneed in the hand, and introduce at once."

We have all heard of amalgam fittings growing; we are now told by two dentists in discussion at a dental convention of gold fillings so far walking out of their graves as to look around; and that, to keep peace in the family, it became necessary to cut off their heads. We do not believe either story; but we do believe some amalgam and some gold fillings wear down so much more slowly than the surrounding tooth substance that they become the more prominent part of the surface.

"Chart of Typical Forms of Irregularities of the Teeth," by Dr. Eugene S. Talbot, The Wilmington Dental Mfg. Co., Philadelphia. This is a fine work. It is not a book, nor an extensive verbal description, but a large chart-book, or atlas, of the various shaped jaws with the teeth, to show constitutional tendencies to irregularities, and suggestions for improvement. Those who know the author's long study in this line, and his practical success in his work, will highly appreciate this chart-book. It is a fine work to leave on the dentist's center table. Price, \$2.50.

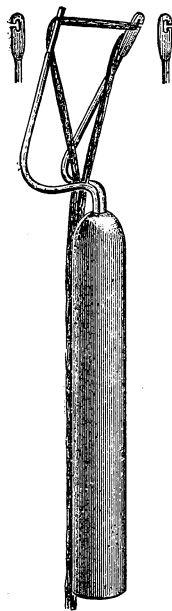
Dr. U. F. Kelsey, of Marseilles, France, has used copper amalgam for more than a year, and has quite fallen in love with it, though he acknowledges it is a nigger, and that it makes a nigger

of what he tries to save. "Within the past year," he says, "I have used forty ounces, and have yet to see a case where it seemed ill-advised. Its softness is its greatest fault. On the masticating surface of teeth, copper amalgam will wear off. This tendency to abrade I have observed in teeth filled by English dentists also."

The following appeared in *March Review*, as applied to the meetings of the Central Dental Association of Northern New Jersey. Is it possible it can be true?

We all know that after-dinner speeches are far from reliable. It reminds us of the fable of the Cat and the Rat. The rat had fallen into a vat of liquor and the cat being conveniently by, was appealed to for help from his sure destruction, but the cat wisely replied, "I would eat you." The rat quickly answered, "I will let you." On this the cat placed her dear friend out of all danger, and quietly awaited the ratification of the compact; but in the meantime the rat had quickly sped to his hole out of harm's way, and complacently viewed the situation, whereon the cat disappointedly called the rat's attention to his promise. "Yes, yes," the rat replied, "I did make that promise, but you must know, *I was in liquor then.*"

A NEW FLOSS SILK CARRIER.



Man's ingenuity in adapting himself to circumstances, and his desire to spare his fellow-men unnecessary suffering and inconvenience, compels him at times to make use of an old method or article, and make it serve the purpose more perfectly.

The accompanying illustration of a simple instrument, which is given full size, presents such an adaptation of an old idea. Every dental practitioner knows how unsatisfactory are the attempts, with the old method, to cleanse the spaces between the teeth, when either floss silk or rubber bands are used. Now this little appliance, which is made of spring steel, and provided with eyes at the end of each arm, admits of the floss silk or rubber band being easily attached to it and held in place, as illustrated, and the proximal surfaces of the teeth are easily cleansed, without the fingers being inserted into the mouth.

It will be noticed that a great economy of silk is achieved, while the appliance itself is very simple, and can be handled without any trouble.

The low price at which it can be furnished will enable every dentist to make a present to their patients of this pretty and necessary article.

Editorial.

EXCLUSIVENESS.

We once attended a dental society's meeting in Philadelphia, in which a few of the "high-toned" young men "ran the machine." Their conduct was so offensively exclusive, self-important and disrespectful to visiting dentists, that the venerable Prof. Truman and two or three others warned them that such an intolerant spirit of snubbish and snobbish, kid-gloved aristocratic exclusiveness and impertinence would ruin the society.

In reading an account of the proceedings of the First District Society of New York, in *March Review*, we are reminded of a somewhat similar spirit there. The writer says:

The readers of my former letters will recall that I spoke of a resolution which pointed direct to the ineligibility of dentists holding patents. This came up for acceptance or rejection. It was accepted, and became a part of the by-laws of the First District Society of New York. An amendment was added that requires all present members to sign this by-law; also a second amendment forbids not only the case of exhibition at the door, but inside the office as well. To add to the color of the entire session, "black balls" fell thick, and only one candidate for membership, out of a list of four, was elected. That some idea may be formed of the spirit generated during the present administration and culminating at this session, I give this piece of news: After the meeting closed, Dr. Norman W. Kingsley wrote out his resignation and left it in the hands of the secretary. This has been forced by self-respect. From the moment Dr. Kingsley was made president, a determined purpose has been forcing his administration, in order to bring defeat. Many stories were in circulation. One was this—"that fifteen members would resign;" and a second, which seemed like a thought to go slow, that "they would remain and pay their dues and not attend the meetings." Yet each meeting has revealed the fact that no time would be lost in doing all that evil-minded men could do to destroy the harmony of the society. We say "evil-minded men," for it could not have been good-minded men that would have gone to such extremes.

The following are the amendments to their by-laws referred to:

ARTICLE II. SECTION 2. Active members shall be dentists residing in the First Judicial District of the State of New York, holding their membership in accordance with the provisions of section 13 of the Act incorporating this society. Also, any person registered as a dentist in the County Clerk's office of the County of New York, and practicing in said county, shall be eligible for active membership in this society. Addition—*provided that he be of good character, that he does not conduct his practice by means of the exhibition of dental specimens, appliances or apparatus in a window*

or in a show-case exposed to public inspection in or out of the office, or by means of public advertisement, or by circulars describing modes of practice, or patented or secret processes, or by the publication of his scale of professional charges.

ARTICLE II. SECTION 3. Each applicant for admission to active membership must have fulfilled the requirements of section 13 of the Act incorporating this society, and also all the requirements of the laws regulating the practice of dentistry in the State of New York. Addition—*and shall have subscribed to the conditions laid down in Article II, section 2 of these by-laws,*—and each applicant must be endorsed by two members in good standing, and referred to the Executive Committee. Upon their approval, he shall be eligible for election at a subsequent regular meeting, and three-fourths of all votes cast shall be necessary to elect. Addition—*All members of the society shall agree to these provisions of the by-laws.*

In the midst of depressing difficulties, perplexities, and long-continued labors, the soul would faint if it was not for the hope of final success. Blessed is that man who can be faithful, aggressive and cheerful in darkness and gloom, waiting patiently for the morning. He works by faith, but a faith that knows the day of cheer will come, and he makes all preparation for its approach. The conviction that he deserves success goes far toward bringing it, and his battling with difficulties prepares him the better for its enjoyment. The contrast when it comes will make the change the more appreciated.

Still, though such thorough work and such trying circumstances have their uses, no one likes to work in the dismal, chilly night; and though the first rays of the morning, after the long dreary hours have past, may be glorious, none like the waiting. Doubly blessed is that man who can have the sunshine of prosperity to comfort him while he works. The hope of reward sweetens labor, but most of us do not like to trust. It cheers us wonderfully to have the glittering coin in sight, and we are willing to work hard to reach it. As soon as earned we want to feel it in our pockets, though it may not be as much as a promise of something to come by and by. It may consume our very life, and be a commercial selfishness, but a business law we love to realize. Though to reach success we have to climb steep hills, difficult and dangerous; yet, if each step is a conscious success, we like it.

But still more blessed is that man who, in his every-day employment turns labor into enjoyment, duty into privilege, and the ills of life into triumphs, whose labor is rest and whose pain is sweet ; yes, whose busiest hours are exhilarating and refreshing. He can dance and sing as he plans and executes, and laugh at weariness and vexation. Such a man's business is his delight.

This is our normal state. It is where we belong. We are made for it, and we are discontented only when we are not in it. Misery comes by our being out of our sphere in character or work. God in His love, and our nature in its health, require nothing of us we cannot enjoy, and when thus in harmony with God and our nature we enjoy everything. It is disease that brings pain ; health gives pleasure. It is being disjointed that hurts ; with spirit, mind and body in good order, every movement and emotion are a delight. It is being out of our place that gives us misery. All fish live in the water, but to thrive, each variety must have its special surroundings, away from where they belong they might almost as well be out of water. Get where you belong and behave yourself, and you will be healthy, wealthy and wise ; contented, happy, and at rest.

WORK FOR DULL HOURS.

Have something to do ; not as it may happen, but plan for every exigency of spare time. Rainy weather and dull days will come, and unless we have definite occupation for them, they are sure to hang heavily on our hands. Then, again, with storm without and dullness within, the spirits will flag in spite of us. Ambition will weaken, laziness will creep on us, and—"Satan finds some mischief still for idle hands to do." Unless careful, even busy days and important work will not fully arouse us. We become demoralized, and we are led to worse than idleness.

Rather look for these odd times with pleasure, and have something definite to do in them. All business really needs them. The busy man fails to sufficiently consider details, to pick up odds and ends, to unravel little difficulties, and to do many odd jobs that have been waiting for just such times. We dentists need them as much as any other business men, to attend to delinquent patients

and debts ; neglected studies and work ; to do difficult things we have no other time for. These very times of leisure should make us thoughtful, stimulate enterprise and suggest new lines of work. If our business continually pushes us we get into beaten grooves, and, though new ways suggest themselves, we have no time to mature them. Then we have our dental periodicals, especially those long, exhaustive articles which may be important but must be put off for leisure hours. And do we not remember little contrivances we were going to work out at our first spare time ?

With all these things in mind, we begin to wish we had more leisure hours. They really become our busiest time.

To be only a dentist is to be only a machine—a machine that, however good and useful, must wear out and soon be forever forgotten. The dentist must also be a *man*—a man behind the machine, a living force, that shall live and act and enjoy forever.

This is no Utopian view, no impossible ideal ; not even a mystery. It is only bringing ourselves and our work so far above the common plane as to be governed by the dignity of our manhood, the inspiration of our calling, and the eternal progress of our development.

Such a man will be sure of success, and it will be the success of his life, as well as of his vocation. Yes ; more—that vocation will be so overshadowed by his greater self, that he will be to the community, the State and the world, a power far outstripping the confines of his humble handicraft.

Of course, we cannot reach such a sphere at a bound. It is step by step, as each succeeding day is made the superior of its predecessor.

Dr. G. M. Spangler, of Allegheny City, Pa., came to his death through an accident, March 3d, aged 24. He was an exceptionally good dentist, and what is more to his praise, he was an exceptionally good young man. I love to hear of these dentists who are men, in the noblest, highest and most useful sense.